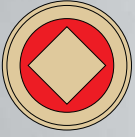


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UDRUŽENJE BANAKA  
CRNE GORE  
ASSOCIATION OF  
MONTENEGRIN BANKS

# Bankar

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# 10 GODINA SA VAMA



Već **10 godina** smo sa vama, svakodnevno ispunjavajući svoju misiju da budemo stabilan oslonac građanima i privredi Crne Gore. Traženje individualnih rješenja shodno potrebama klijenata i uspostavljanje dugoročnih odnosa sa njima, vrijednosti su koje se cijene i po kojima nas prepoznaju svih ovih godina. I u narednom periodu radićemo predano i posvećeno da bi svi naši klijenti napredovali zajedno sa nama.

**Lovćen banka - mjesto za sve vaše finansijske potrebe.**



## Uvodna riječ glavnog urednika

Poštovani čitaoci,

Predstavljamo novi broj časopisa Bankar sa temama koje su od lokalnog, ali i mnogo šireg značaja, jer se odnose na standarde poslovanja i trendove u bankarskom poslovanju.

Predstavljamo rješenja jedne od najvećih firmi u svijetu Dun & Bradstreet u vezi problematike upoznavanja klijenta – KYC i smanjenje rizika, što u eri digitalizacije svakog dana dobija neki novi značaj. Evolucija od periodičnog ka kontinuiranom KYC-iju traje već skoro deceniju, ali se poslednjih godina, među bankama i ostalim regulisanim finansijskim institucijama značajno ubrzao taj trend, tako da sada više govorimo o revoluciji, nego evoluciji KYC procesa. Bankama u Crnoj Gori se kroz radionicu omogućio direktan kontakt i saradnja sa ovom renomiranom firmom.

Sve prisutniji su negativni efekti klimatskih promjena na koje nam kroz autorski tekst Zelena tranzicija i uloga ECB-a, ukazuje Pjero Čipolone Član Izvršnog odbora ECB-a. Na prethodna razmišljanja nadovezuje se tekst o zelenom talasu i novim finansijskim tehnologijama koji ukazuje da "Borba protiv klimatskih promjena je suštinska komponenta globalne agende održivosti i ona u kojoj finansijske usluge mogu dati važan doprinos".

Imamo tekst koji ukazuje na Odluku Savjeta Evrope koja na širi i jači način reguliše borbu protiv pranja novca. Potom, imamo tekst koji ukazuje da baveći se aspektima zapošljavanja/angažovanja vještačke inteligencije, postavljamo temelje za budućnost koja daje prioritet i inovacijama i našoj radnoj snazi. Svjedoci smo svakodnevnih izjava analitičara o radu banaka, koji nijesu uvijek u skladu sa realnim kretanjima. Polemiše se o osnivanju banke za razvoj, ali i o dopunjenom predlogu Zakona u vezi potrošačkih kredita, tako da tekst koji publikujemo pokušava da približi stav struke o svim ovim pitanjima. Tekst koji ukazuje na rizike u bankarskom poslovanju približava problematiku i onima koji su van ove problematike. „Loš učesnik je rizik za sistem, ali loš sistem je rizik za sve učesnike“ jasno govori o tome koliko je važno da u praksi postoje izgrađeni mehanizmi za otklanjanje i minimiziranje rizika. Nadovezuje se tekst Iskustva federacije Irske za bankarstvo i platni promet koja informiše da su prevaranti uzeli 60 miliona eura za četiri godine, o čemu UBCG se trudi kroz kampanje da informiše i domaću javnost. Implementacija PSD2 i iskustvo Mađarske dato je kroz tekst koji ukazuje na posebnost procesa i po tome što se mađarski sistem po mnogo čemu razlikuje od većine sistema instant plaćanja koji rade širom svijeta. Glavna razlika je personalizovani obim projekta. Udruženje banaka Australije ukazuje da Pravilima o otvorenom bankarstvu trebaju „novi planovi za budućnost“. Na kraju imamo osvrt na proces gdje Evropska centralna banka (ECB) radi na pripreмноj fazi digitalnog eura kako bi ga što više približila gotovini u smislu privatnosti, sigurnosti i pristupačnosti – ali zainteresovane strane ostaju zabrinute zbog njegovog dizajna i neophodnosti.

Nadam se da ćete uživati u kvalitetu i interesantnosti tema koje su prezentovane kroz stavove ljudi od struke.

Srdačan pozdrav,

Glavni i odgovorni urednik  
mr Bratislav Pejaković

## Foreword of the Secretary General

*Dear Readers,*

*We present a new issue of the Bankar magazine with topics that are of local, but also of much wider importance, as they relate to business standards and trends in banking business.*

*The article featuring the solutions of one of the largest companies in the world, Dun & Bradstreet, regarding the issue of know your client - KYC and risk reduction, which in the era of digitalization is gaining new importance every day has found its place in the new issue of the magazine. The evolution from periodic to continuous KYC has been going on for almost a decade, but in recent years, among banks and other regulated financial institutions, that trend has significantly accelerated, and now we are talking more about a revolution than an evolution of the KYC process. Through the workshop, banks in Montenegro were enabled to have direct contact and cooperation with this renowned company.*

*The negative effects of climate change are increasingly present, which Piero Cipollone, a member of the ECB's Executive Board, points out to us in his article, Green transition and the role of the ECB. The previous thoughts are followed by a text on the green wave and new financial technologies which indicates that "The fight against climate change is an essential component of the global sustainability agenda and one in which financial services can make an important contribution".*

*We bring you a feature about the decision of the Council of Europe, which regulates the fight against money laundering in a broader and stronger way. Then, we have an article that indicates that by addressing the employment/engagement aspects of AI, we are making foundation for a future that prioritises both innovation and our workforce. We witness the daily statements of analysts about the work of banks, which are not always in line with real trends. There is a controversy about the establishment of a development bank, but also about the amended proposal of the law regarding consumer loans, that are presenting the stance of the profession on all these issues. The article that points out the risks in banking business brings the problem closer to those who are outside of this problem. "A bad participant is a risk for the system, but a bad system is a risk for all participants" clearly shows how important it is that in practice there are built-in mechanisms for risk elimination and minimization. We also bring you an article of the of Irish Banking and Payment Transactions Federation indicating that fraudsters have taken 60 million euros in four years, about which the UBCG is trying to inform our public through campaigns. The implementation of PSD2 and Hungary's experience is given is presented, indicating the peculiarity of the process and the fact that the Hungarian system differs in many ways from the majority of instant payment systems operating around the world. The main difference is the personalised scope of the project. The Banking Association of Australia says that open banking rules need "new plans for the future". Finally, we bring you the feature about the work of the European Central Bank (ECB) on the preparatory phase of the digital euro to bring it as close as possible to cash in terms of privacy, security and accessibility – but stakeholders remain concerned about its design and necessity.*

*We hope you will enjoy the quality and the attractiveness of the topics presented through the views of the professionals.*

*Best regards,*

*Editor-in-Chief,*

*Bratislav Pejaković, M.Sc*

# BANKAR

Broj 66 / septembar 2024.

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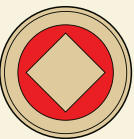
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## BANKAR

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Solution Sales  
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# Prelazak sa periodičnog na kontinuirani KYC proces – sada i naša stvarnost

Kontinuirani KYC je suštinski jedan stalan i dinamičan pristup dužnoj proveri klijenata, koji je determinisan određenim događajima ili promenama u profilu klijenta, umesto predefinisanim periodičnim proverama. Ovaj pristup KYC-u podrazumeva neprekidno ažuriranje i proveru informacija o klijentima, koje je omogućeno upotrebom automatizovanih sistema vođenih veštačkom inteligencijom i dostupnih globalnih centralizovanih izvora podataka, obezbeđujući tako da se tačni podaci o klijentima održavaju u realnom vremenu

determinisan određenim događajima ili promenama u profilu klijenta, umesto predefinisanim periodičnim proverama. Ovaj pristup KYC-u podrazumeva neprekidno ažuriranje i proveru informacija o klijentima, koje je omogućeno upotrebom automatizovanih sistema vođenih veštačkom inteligencijom i dostupnih globalnih centralizovanih izvora podataka, obezbeđujući tako da se tačni podaci o

klijentima održavaju u realnom vremenu.

**E**volucija od periodičnog ka kontinuiranom KYC-iju traje već skoro deceniju, ali se poslednjih godina, među bankama i ostalim regulisanim finansijskim institucijama značajno ubrzao taj trend, tako da sada više govorimo o revoluciji, nego evoluciji KYC procesa. Taj ubrzani prelazak je posledica više faktora, pre svega sve češćih promena ekonomskog okruženja (posledično sve češćih promena kod poslovnih aktera) i sve učestalijih izmena regulativa, ali i dostupnosti globalnih centralizovanih baza podataka i napretka AI modela. Ovaj trend je takođe podržan i potrebom banaka da poboljšaju efikasnost i smanje rizik svojih internih procesa, kao i uvek prisutnom željom upravnih i izvršnih odbora da se postigne više sa manje resursa.

Šta je u stvari kontinuirani KYC (perpetual KYC)? Kontinuirani KYC je suštinski jedan stalan i dinamičan pristup dužnoj proveri klijenata, koji je

## Zašto periodične provere više nisu dovoljne ?

Postoji mnogo razloga zbog kojih banke žele da saznaju sa kime posluju. Gledajući sa compliance/aml aspekta, banke pre svega žele utvrditi da li su njihovi klijenti politički izložene osobe (PEPs), da li se možda nalaze na sankcijskim listama ili listama za praćenje. Pored ovoga, banke žele biti informisane i upoznate sa eventualnim negativnim medijskim izveštajima o svojim klijentima. Bez sumnje, KYC proces je ključan za utvrđivanje rizika pre nego što se uđe u poslovni odnos sa klijentom.

Međutim, tradicionalni KYC proces zahteva značajno učešće ljudskog faktora, kako za inicijalnu proveru i onboarding, tako i za periodično osvežavanje i pregled promena kod klijenata. Ovo ne samo da iscrpljuje resurse i

# Transition from periodic continuous KYC process – now and our reality

Mladen Kalezić, Solution Sales Advisor Dun & Bradstreet doo Belgrade

Continuous KYC is essentially a constant and dynamic approach to customer due diligence, which is determined by certain events or changes in the customer's profile, instead of predefined periodic due diligence. This approach to KYC involves continuous updating and verification of customer information, enabled by the use of automated AI-driven systems and accessible global centralised data sources, ensuring that accurate customer data is maintained in real-time

The evolution from periodic to continuous KYC has been going on for almost a decade, but in recent years, among banks and other regulated financial institutions, that trend has significantly accelerated, so now we are talking more about a revolution than an evolution of the KYC process. This accelerated transition is the result of several factors, first of all the more frequent changes in the economic environment (as a result of more frequent changes in business players) and more frequent changes in regulations, but also the availability of global centralised databases and the progress of AI models. This trend is also supported by the need for banks to improve the efficiency and reduce the risk of their internal processes, as well as the ever-present desire of management and executive boards to achieve more with fewer resources.

What actually is continuous KYC (perpetual KYC)? Continuous KYC is essentially a constant and dynamic approach to customer due diligence, which is determined by certain events or changes in the customer's profile, instead of predefined periodic due diligence. This approach to KYC involves continuous updating and verification of customer information, enabled by the use of automated

AI-driven systems and accessible global centralized data sources, ensuring that accurate customer data is maintained in real-time.

## **Why are periodic checks no longer enough?**

There are many reasons why banks want to know who they are doing business with. Looking from the compliance/AML aspect, banks want, first of all, to determine whether their customers are politically exposed persons

(PEPs), whether they may be on sanction lists or watch lists. In addition to this, banks want to be informed and familiar with possible negative media reports about their customers. Undoubtedly, the KYC process is crucial to identify risks before entering into a business relationship with a customer.

However, the traditional KYC process requires significant participation of the human factor, both for initial verification and onboarding, as well as for periodic updating and review of customer changes. This not only

*„Banks want to be informed and familiar with possible negative media reports about their customers. Undoubtedly, the KYC process is crucial to identify risks before entering into a business relationship with a customer*

## 6 „Banke žele biti informisane i upoznate sa eventualnim negativnim medijskim izveštajima o svojim klijenata. Bez sumnje, KYC proces je ključan za utvrđivanje rizika pre nego što se uđe u poslovni odnos sa klijentom

vreme zaposlenih, već ogroman broj provera znači da postoji velika mogućnost ljudske greške, dok periodičnost u osvežavanju podataka uvek ostavlja prostor u kome će se propustiti evidentiranje promena koje nastanu između dva perioda provere. Dakle, čak i kada su periodične provere obavljene po rasporedu, banka između dve provere, pa i nakon, neće biti svesna pojedinih rizika unutar portfolija (višestruke su posledice nepravilno utvrđenih i kvantifikovanih rizika na poslovanje banke, o kojima ovde neće biti reči).

Sa kontinuiranim KYC procesom, situacija je umnogome drugačija. Početni koraci su isti, međutim sistemi koji su dizajnirani da ga podrže, kontinuirano konsultuju velike baze podataka, primaju obaveštenja o promeni, ista prosleđuju KYC platformi, koja će zatim izvršiti procenu i kreirati odgovarajuće akcije za datu promenu. Na primer, kod promene direktora, njihovi detalji mogu se automatski poslati na proveru za sankcije, PEPs, negativne medije, i ako se ne nađu podudaranja, tada se ova promena može primeniti, zabeležiti i odobriti, bez uticaja na procenu rizika klijenta, i bez intervencije od strane aml/compliance analitičara. Međutim, jasno je da će sistem u određenim situacijama zahtevati ljudsku

„Kontinuirani KYC prati i označava promene kada se one dogode, što znači da banke mogu biti reaktivne na promenu kada se zapravo dogodi i onda fokusirano usmeriti napore na ono što zaista treba proverit

intervenciju za obavljanje dodatnih provera ili analizu lažnih pozitivnih rezultata.

Ovde treba napomenuti, da ovi sistemi iako dizajnirani da automatizuju proces, rade po pravilima i risk politikama koje su im zadali risk analitičari banke, tako da sistem ne preuzima kontrolu, već samo rad, i to u okvirima definisanim od strane banke. Tako da i kada sistem zahteva ljudsku intervenciju, on će svakako omogućiti analitičaru da brže i efikasnije izvrši potrebnu proveru klijenta, jer će konkretna promena biti naznačena, kako bi on bio fokusiran samo na nju, a ne na ostale elemente zapisa o klijentu.

### Sa kojim problemima u praksi se susreću banke sa periodičnim KYC-ijem ?

Jedna od najvećih teškoća za KYC dolazi iz potrebe da se uspostave složene vlasničke strukture. Što je krajnji vlasnik dalje od preduzeća, ili što je više povezanih preduzeća u strukturi, mrežu vlasništva je teže razmrsiti. Ovde, dubina nastale promena u vlasništvu može uticati na to koliko je lako za banku da identifikuje krajnjeg vlasnika. Bez dovoljno opsežnih i centralizovanih globalnih baza podataka, banke će se boriti da verifikuju vlasništvo i uoče tačno kako je pojedinac povezan sa kompanijom, posebno kada postoji mnogo stepeni razdvajanja duž više jurisdikcija (npr. vlasnički niz firme registrovane u Crnoj Gori može se protezati kroz Luksemburg, Švajcarsku, Monako da bi završio u UAE, na Kipru ili Kajmanskim ostrvima). Ova vidljivost duž globalnog vlasničkog lanca, i mogućnost otključavanja kompleksnih vlasničkih struktura je ključna za sprovođenje odgovarajućih provera, a nedostatak ovih informacija stavlja banku u rizik od štetnih odnosa i povezanosti sa klijentima sa kojima takve asocijacije ne bi trebalo biti.

Korišćenje velikih globalnih centralizovanih baza podataka upravljanih veštačkom inteligencijom u okviru kontinuiranog KYC procesa, stavlja banke u položaj da brže otkrivaju promene i razumeju njihov uticaj, budu reaktivnije i bolje usklađene sa realnim rizikom koji klijent predstavlja. Mnogo toga se može desiti između ciklusa provera koji su povezani sa tradicionalnim periodičnim KYC pregledima.

U okviru kontinuiranog KYC-ija, ako nije bilo promena, banke nemaju potrebu da istražuju klijente po unapred definisanom rasporedu, gde kod periodičnog KYC-ija banke ponavljaju čitav niz provera, iako se defacto ništa nije promenilo kod klijenta. Kontinuirani KYC prati i označava promene kada se one dogode, što znači da banke



exhausts the resources and time of the employees, but the huge number of checks means that there is a high possibility of human error, while the periodicity in refreshing the data always leaves a space in which the recording of changes that occur between two check periods will be missed. Therefore, even when periodic checks are carried out according to the schedule, the bank will not be aware of certain risks within the portfolio between the two checks, and even after (there are multiple consequences of improperly determined and quantified risks on the bank's operations, which will not be discussed here).

With a continuous KYC process, the situation is much different. The initial steps are the same, however the systems designed to support it continuously consult large databases, receive change notifications, forward them to the KYC platform, which will then perform an assessment and create appropriate actions for a given change. For example, when a director changes, their details can be automatically sent to check for sanctions, PEPs, negative media, and if no matches are found, then this change can be applied, recorded and approved, without affecting the customer's risk assessment, and without interventions by AML/compliance analysts. However, it is clear that in certain situations the system will require human intervention to perform additional checks or analyse false positive results.

It should be noted here that these systems, although designed to automate the process, work according to the rules and risk policies given to them by the bank's risk analysts, so the system does not take control, but only work, within the framework defined by the bank. So, even when the system requires human intervention, it will certainly enable the analyst to perform the necessary customer due diligence faster

and more efficiently, because the specific change will be indicated, so that he would focus only on it, and not on other elements of the client record.

### **What problems do banks with periodic KYC face in practice?**

One of the biggest difficulties for KYC comes from the need to establish complex ownership structures. The further away the ultimate owner is from the enterprise, or the more connected enterprises there are in the structure, the more difficult it is to untangle the network of ownership. Here, the depth of the resulting change in ownership can affect how easy it is for the bank to identify the ultimate owner. Without sufficiently extensive and centralised global databases, banks will struggle to verify ownership and see exactly how an individual is connected to a company, especially when there are many degrees of separation along multiple jurisdictions (e.g. the ownership chain of a company registered in Montenegro may stretch through Luxembourg, Switzerland, Monaco to end up in UAE, Cyprus or Cayman Islands). This visibility along the global ownership chain, and the ability to unlock complex ownership structures is key to conducting appropriate due diligence, and the lack of this information puts the bank at risk of damaging relationships and connections with customers with whom such associations should not exist.

The use of large global centralised databases managed by artificial intelligence as part of the continuous KYC process puts banks in a position to detect changes faster and understand their impact, be more reactive and better aligned with the real risk that the client represents. A lot can happen between the verification cycles associated with traditional periodic KYC reviews.

In the framework of continuous KYC, if there have been no changes, banks do not need to investigate customers according to a predefined schedule, where in periodic KYC, banks repeat a whole series of checks, even though de facto nothing has changed with the customer. Continuous KYC tracks and flags changes when they happen, meaning banks can be reactive to change when it actually happens and then focus their efforts on what really needs to be checked. For example, if 85% of companies do not change their directors during the year, why waste time checking each company, when only 15% actually need to be

*„Continuous KYC tracks and flags changes when they happen, meaning banks can be reactive to change when it actually happens and then focus their efforts on what really needs to be checked*

## 8 „Nove regulative i sankcije se sve češće pojavljuju, PEP-ovi se stalno menjaju, a negativni medijski izveštaji se objavljuju svakodnevno. Za banke je veoma izazovno i kompleksno da ostanu u toku sa ovim promenama

mogu biti reaktivne na promenu kada se zapravo dogodi i onda fokusirano usmeriti napore na ono što zaista treba proveriti. Na primer, ako 85% firmi ne menja svoje direktore tokom godine, zašto gubiti vreme proveravajući svaku firmu, kada samo 15% zapravo treba da bude pregledano. Kontinuirani KYC eliminiše potrebu za obradom 100% firmi svaki put, tako što kontinuirano prati, identifikuje i ažurira sve promene u upravljačkim i vlasničkim strukturama, i ostalim podacim relevantnim za procenu rizika.

Ne treba zaboraviti kapacitet dokumentovanja koji sistemi dizajnirani da podrže kontinuirani KYC imaju. Ovi sistemi su opremljeni robustnim izveštajnim aparatom koji je potreban bankama da na zahtev regulatora dokumentuje svoju dužnu pažnju tokom uspostavljanja i održavanja odnosa sa klijentom.

### Izazov screening-a klijenata

Kontinuirano praćenje promena u upravljačkim i vlasničkim strukturama je samo jedan deo priče. Drugi deo, tzv. screening, je često taj koji zahteva najviše vremena i resursa da bi bio ispravno urađen. Nove regulative i sankcije se sve češće pojavljuju, PEP-ovi se stalno menjaju, a negativni medijski izveštaji se objavljuju svakodnevno. Za banke je veoma izazovno i kompleksno da ostanu u toku sa ovim promenama. Često je zanemaren trud potreban da se "očisti" rezultat inicijalnog screening-a. Pretraga zasnovana na profilima i poboljšano upravljanje lažnim pozitivnim rezultatima screening-a, može pomoći u smanjenju ovog napora, ali takav proces zahteva dodatne podatke na početku pretrage kako bi se smanjio broj lažnih pozitivnih rezultata. Dobro održavani i organizovani profilni podaci omogućavaju brže, preciznije informacije o pojedincu u pitanju, olakšavajući veličinu pretrage i smanjujući rad na lažnim pozitivnim rezultatima. Screening sa profilom pretpostavlja pretragu sa dodatnim atributima na

ulaznom zapisu, tzv. sekundarnim identifikatorima (kao što su pol, datum i mesto rođenja, adresa, ID dokumenta, slika i sl.), čime se povećava tačnost rezultata i smanjuje vreme potrebno za čišćenje rezultata. Nasuprot, screening-u bez profila, koji je najčešće podrazumevan za tradicionalni periodični KYC, gde se svaka potencijalna varijanta imena koje se pretražuje ubacuje u rezultat, što obično dovodi do velikog broja podudaranja (hits) koji zahtevaju dodatnu proveru od strane ljudskog faktora. Bez inteligentnog upravljanja lažnim pozitivnim rezultatima, aml/compliance timovi mogu očekivati da vide značajno više potencijalnih podudaranja za svako ime koje se pretražuje. Ovo smanjenje broja podudaranja u rezultatu je važno za banke, koje se ne suočavaju samo sa rastućim brojem sankcija, već i sa sve širim obuhvatom onoga što one pokrivaju (kršenje ljudskih prava, širenje naoružanja ili upotreba dečje radne snage). Jasno je da banke trebaju rešenja koja povezuju današnje sankcijsko okruženje sa održivim, detaljnim podacima, omogućavajući im otkrivanje promena brže i lakše. Na primer, vlada Sjedinjenih Država je u samo u periodu od 2016-te do 2020-te, u proseku godišnje dodavala više od 1.000 entiteta i pojedinaca na svoje sankcijske liste, što je za 80% više nego što je bio prosek u prethodnih osam godina.

### Rešenja dostupna na našim tržištima

Periodični KYC bio je odgovor bankarske industrije zasnovan na tehnologiji i načinu pristupanja i obradi informacija pre više od decenije. Ali tehnologija i makroekonomija su se značajno promenili. Periodični KYC pregledi i pretraga bez profila postali su zastareli, otežavajući aml/compliance timovima da efikasno i reaktivno obavljaju kontrole koji ispunjavaju savremene KYC zahteve.

Sve ovo može delovati suviše izazovno, možda i otežavajuće za neke banke, polazeći od sopstvenih kapaciteta i resursa. Ali banke ne moraju da se oslanjaju samo na sebe, niti trebaju. Postoje rešenja, koja su već godinama u upotrebi od strane kompanija i banaka širom sveta, upravo dizajnirana da podrže kontinuirani KYC. Ne treba izmišljati "toplu" vodu, već primeniti uspešna rešenja i prakse koje već postoje, i koja su sada dostupna sa lokalnom podrškom i na našim tržištima.

*Kompanija Dun & Bradstreet sa kancelarijom u Beogradu, i globalnom timom od preko 6.000 zaposlenih u više od 190 zemalja sveta, je lider u oblasti risk i compliance-a, čija rešenja koristi 80% kompanija sa Fortune 500 liste (kalezicm@dnb.com).*

reviewed. Continuous KYC eliminates the need to process 100% of companies every time, by continuously monitoring, identifying and updating all changes in management and ownership structures, and other data relevant to risk assessment.

We should not forget the documentation capacity that systems designed to support continuous KYC have. These systems are equipped with a robust reporting apparatus that banks need to document their due diligence upon the request of the regulator during the establishment and maintenance of the relationship with the customer.

### **The challenge of screening customers**

Continuous monitoring of changes in management and ownership structures is only one part of the story. The second part, the so-called screening, is often the one that requires the most time and resources to be done correctly. New regulations and sanctions appear more frequently, PEPs are constantly changing, and negative media reports are published daily. It is very challenging and complex for banks to stay abreast of these changes. Often overlooked is the effort required to "clean up" the result of the initial screening. Profile-based search and improved management of false positive screening results can help reduce this effort, but such a process requires additional data at the beginning of the search to reduce the number of false positives. Well-maintained and organised profile data enables faster, more accurate information about the individual in question, easing the size of the search and reducing the work of false positives. Screening with a profile assumes a search with additional attributes on the input record, the secondary identifiers (such as gender, date and place of birth, address, document ID, picture, etc.), which increases the accuracy of the results and reduces the time needed to clean the results. In contrast to profileless screening, which is usually the default for traditional periodic KYC, where every potential variant of the searched name is inserted into the result, which usually leads to a large number of matches (hits) that require additional verification by a human factor. Without intelligent management of false positives, AML/compliance teams can expect to see significantly more potential matches for each name searched. This reduction in the number of matches in the result is important for banks, which face not only a growing number of

*„New regulations and sanctions appear more frequently, PEPs are constantly changing, and negative media reports are published daily. It is very challenging and complex for banks to stay abreast of these changes*

sanctions, but also an ever-widening scope of what they cover (human rights violations, proliferation or the use of child labour). It is clear that banks need solutions that connect today's sanctions environment with sustainable, detailed data, enabling them to detect changes faster and easier. For example, from 2016 to 2020 alone, the United States government added an average of more than 1,000 entities and individuals to its sanctions lists annually, an 80% increase over the previous eight-year average. .

### **Solutions available in our markets**

Periodic KYC was the banking industry's technology-based response to information access and processing more than a decade ago. But technology and macroeconomics have changed significantly. Periodic KYC reviews and profileless searches have become obsolete, making it difficult for AML/compliance teams to efficiently and reactively perform controls that meet modern KYC requirements.

All this may seem too challenging, perhaps even discouraging for some banks, starting from their own capacities and resources. But banks do not need to rely only on themselves, nor should they. There are solutions, which have been in use for years by companies and banks around the world, precisely designed to support continuous KYC. We should not invent "hot" water, but apply successful solutions and practices that already exist, and which are now available with local support and in our markets.

*Dun & Bradstreet, with its office in Belgrade, and a global team of over 6,000 employees in more than 190 countries, is a leader in the field of risk and compliance, whose solutions are used by 80% of Fortune 500 companies (kalezicm@dnb.com).*



Pjero Ćipolone  
Član Izvršnog odbora  
ECB-a

# Zelena tranzicija i uloga ECB-a: Trebali smo djelovati juče

Govor Pjera Ćipolonea, člana Izvršnog odbora ECB-a,  
na Festivalu ekonomije u Trentu 26 maja

Dok se danas sastajemo, nalazimo se u kritičnom trenutku. Suočeni sa ozbiljnim negativnim efektima klimatskih promjena, moramo brzo da djelujemo i istovremeno iskoristimo ekonomske prilike koje nudi zelena tranzicija.

Želio bih da se fokusiram na tri važna aspekta. Prvo ću govoriti o sve većim troškovima klimatskih promjena i značajnim investicijama koje zahtijeva zelena tranzicija. Zatim ću govoriti o implikacijama na centralne banke i ulozi koju ECB može da ima. I na kraju, objasniću kako je ova uloga u interakciji sa djelovanjem drugih kreatora politike širom Evrope kada je riječ o suočavanju sa izazovima koji su pred nama.

## RASTUĆA CIJENA KLIMATSKIH PROMJENA

Istorijski gledano, napor u borbi protiv klimatskih promjena često su bili ometani onim što je Mark Karnei definisao kao

"tragediju horizonta": uticaj klimatskih promjena obično se smatrao izvan vremenskog horizonta većine ekonomskih aktera i kreatora politike, čime se umanjuje njihova hitnost da djeluju.

Međutim, došli smo do prekretnice i ne možemo sebi dozvoliti da dalje odugovlačimo, jer se situacija ubrzano mijenja, posebno za Evropu.

Globalne temperature rastu brže nego ikad. Najtoplije godine zabilježene su bile koncentrisane u protekloj deceniji, a 2023. je bila posebno ekstremna. Brzi tempo klimatskih promjena povezan je sa povećanjem učestalosti šumskih požara, perioda suše, toplotnih udara, uragana i oluja, što je sve doprinijelo rastućoj degradaciji životne sredine i gubitku biodiverziteta.

Evropa je posebno pogođena ovim promjenama. Izvještaj o evropskom stanju klime za 2023. pokazuje da je Evropa kontinent koji se najbrže zagrijava na svijetu, koji se zagrijava dvostruko više od globalnog prosjeka od 1980-ih. Od 1980. do 2022. vremenski i klimatski događaji doveli su do ekonomskih gubitaka u ukupnom iznosu od oko 650 milijardi eura u EU. Godišnji

*„Od 1980. do 2022. vremenski i klimatski događaji doveli su do ekonomskih gubitaka u ukupnom iznosu od oko 650 milijardi eura u EU*

# The green transition and the role of the ECB: We should have acted yesterday

Speech by Piero Cipollone, Member of the Executive Board of the ECB, at the Festival dell' Economia di Trento on 26 May 2024

As we meet today, we find ourselves at a critical juncture. Faced with the severe negative effects of climate change, we have to act swiftly while seizing the economic opportunities that the green transition offers.

I would like to focus on three important aspects. I will first talk about the increasing costs of climate change and the considerable investments the green transition requires. I will then discuss the implications for central banks and the role that the ECB can play. And finally, I will outline how this role interacts with the actions of other policymakers across Europe when it comes to facing the challenges ahead.

## THE GROWING COST OF CLIMATE CHANGE

Historically, efforts to combat climate change were often hampered by what Mark Carney defined as the “Tragedy of the Horizon”: the impact of climate change was typically felt to be beyond the time horizon of most economic actors and policymakers, thus diminishing their urgency to act.

However, we have reached a turning point and we cannot afford to delay any further, as

the situation is changing rapidly, especially for Europe.

Global temperatures are rising faster than ever. The warmest years on record have been concentrated in the past decade, with 2023 being particularly extreme. The accelerating pace of climate change is associated with an increase in the frequency of wildfires, periods of drought, heatwaves, and hurricanes and storms, all of which have contributed to growing environmental degradation and biodiversity loss.

Europe is particularly affected by these changes. The European State of the Climate report 2023 indicates that Europe is the fastest-warming continent in the world, warming at twice the global average rate since the 1980s. From 1980

to 2022 weather and climate-related events resulted in economic losses totalling around €650 billion in the EU. Annual losses in 2022 were 41% higher than in 2009.

*„From 1980 to 2022 weather and climate-related events resulted in economic losses totalling around €650 billion in the EU*

## „Istraživanje ECB-a procjenjuje da je ekstremna ljetna vrućina 2022. povećala inflaciju hrane u Evropi za oko 0,7 procentnih poena kumulativno tokom 12 mjeseci

gubici u 2022. godini bili su 41% veći nego u 2009. godini.

Ovaj trend porasta temperatura i povezanih šteta je problematičniji nego ikad. Naše ekonomije još nisu osmislile način da pravilno alociraju rizike negativnih klimatskih događaja na subjekte koji su sposobni da se nose sa njima, što se ogleda u niskom pokrću osiguranja. Prema zajedničkom izvještaju ECB-a i Evropske agencije za osiguranje i profesionalne penzije (EIOPA), samo četvrtina gubitaka od ekstremnih vremenskih i klimatskih

događaja u EU je osigurana. Osiguranje je čak niže među manje imućnim dijelovima stanovništva, koji imaju tendenciju da posjeduju stambene objekte koji su više izloženi rizicima od prirodnih katastrofa i koji se, u odnosu na nivo prihoda, suočavaju sa višim troškovima zaštite.

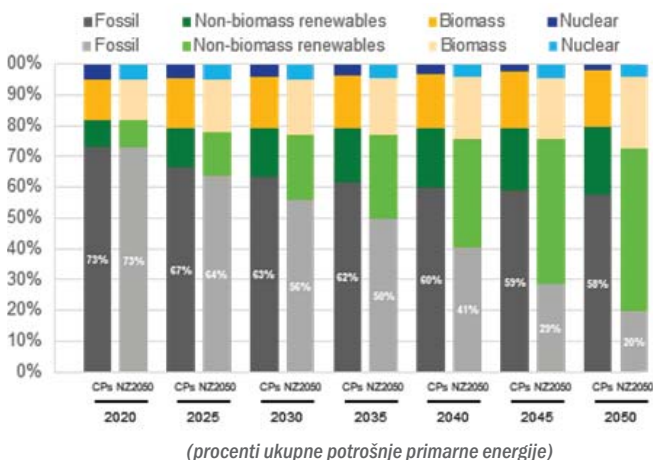
Iako predvodi transformaciju na globalnom nivou, i uprkos značajnim naporima ulozenim do sada, EU trenutno još nije na putu da ispuni svoje klimatske ciljeve za 2030. i 2050. godinu. Potrebna je dalja akcija.

Mreža za ozelenjavanje finansijskog sistema (NGFS), koja okuplja

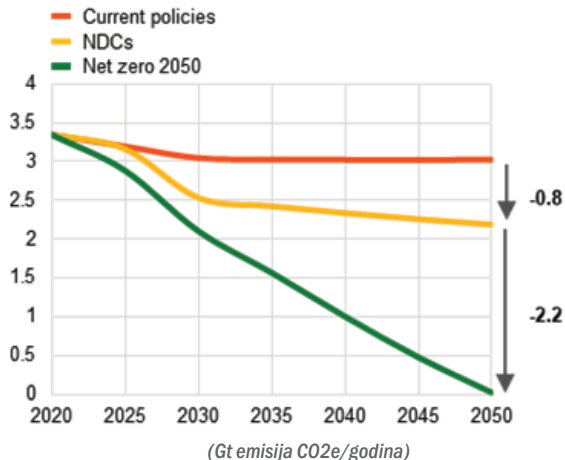
centralne banke i supervizore koji rade na klimatskim pitanjima širom svijeta, razvila je scenarije za procjenu kako bi ekonomije mogle izgledati na različitim putevima klimatske politike. Ovi scenariji naglašavaju da se za postizanje cilja neto nultne stope do 2050. udio fosilnih goriva u kombinaciji izvora energije EU mora smanjiti sa oko 73% u 2020. na oko 20% u 2050. godini. Međutim, trenutne politike bi ga samo smanjile na nešto ispod 60 % (Grafikon 1, panel a). Prema sadašnjim politikama, bili bismo daleko ispod cilja neto nultene stope 2050. Čak i kada bi sva postojeća nacionalna obećanja bila ispunjena, i dalje bi postojao veliki jaz (Grafikon 1, panel b).

Grafikon 1: Kombinacija primarnih izvora energije EU i emisije gasova sa efektom staklene bašte u EU prema različitim scenarijima NGFS od 2020. do 2050.

a) kombinacija primarnih izvora energije EU prema trenutnim politikama i neto nultim scenarijima do 2050. godine



b) Emisije gasova sa efektom staklene bašte u EU prema trenutnim politikama, nacionalno utvrđenim doprinosima (NDC) i neto nultim scenarijima do 2050.



zvor: NGFS. Podaci su izvedeni iz GCAM 6.0 NGFS modela koji pokriva EU27.

Napomene: Trenutni scenarijo politike (CP): pretpostavlja da se održavaju samo politike koje se trenutno primjenjuju, što dovodi do visokih fizičkih rizika.



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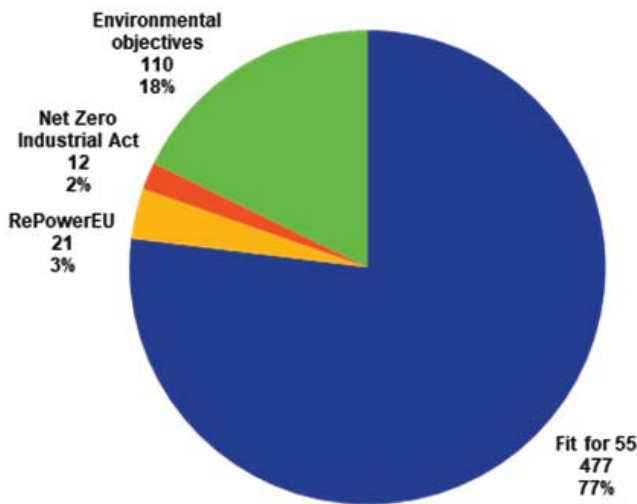
Nacionalno utvrđeni scenario doprinosa (NDC): uključuje sve obećane politike, čak i ako još nisu provedene, što rezultira umjerenim i heterogenim klimatskim ciljem koji dovodi do smanjenja emisije CO<sub>2</sub>, ali samo ograničava globalno zagrijavanje na 2,6°C. Neto nulta stopa 2050. (NZ2050) scenario: pretpostavlja da se sprovedu stroge klimatske politike i sprovedu inovacije, ograničavajući globalno zagrijavanje na 1,5°C, dostižući neto nultu emisiju CO<sub>2</sub> do 2050. godine.

Da biste stavili obim potrebnih akcija u kontekst, razmotrite investicije koje su potrebne za ispunjavanje ciljeva zelene tranzicije EU. Evropska komisija je procijenila da će biti potrebna dodatna ulaganja od 620 milijardi eura godišnje između 2023. i 2030.

(Grafikon 2). To iznosi 3,7% BDP-a EU 2023. godine. Osim toga, EU će takođe morati da ulaže u klimatsku otpornost kako bi se pripremila

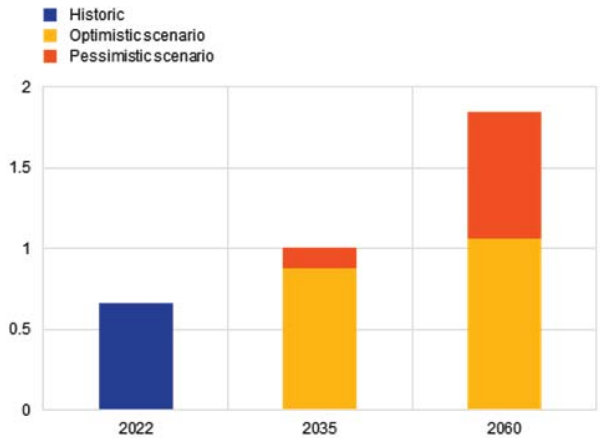
za posljedice klimatskih promjena koje se više ne mogu izbjeći. Globalne temperature su zaista na putanji koja je daleko iznad ciljeva Pariskog sporazuma.

Stoga smo sada u sljedećoj fazi tragedije horizonta. Pošto nismo dovoljno ulagali u prošlosti, kada se činilo da su uticaji daleki, sada smo suočeni sa većim troškovima u smislu uticaja klimatskih promjena na našu ekonomiju danas i ulaganja potrebnih za ublažavanje budućih šteta. I izloženi smo začaranom krugu, gdje se privreda nalazi uhvaćena u kontinuiranu petlju upravljanja



Grafikon 2  
Potrebe za dodatnim godišnjim investicijama EU kako bi se ispunili ciljevi Evropskog zelenog dogovora, 2023-2030 (milijarde eura godišnje i procenti)

Izvor: Evropska komisija.  
Napomene: Prosječne godišnje potrebe ulaganja kako bi se ispunili ciljevi postavljeni u okviru različitih inicijativa EU u vezi sa zelenom tranzicijom uz istorijske investicije (2011-2020).



Grafikon 3  
Uticaj toplotnih talasa na inflaciju cijena hrane (procentni poeni)

Izvori: Kotz et al (2023).  
Napomene: Procijenjeno sa pristupom globalne panel regresije koristeći mjesečne cijene i klimatske podatke visoke rezolucije. Prikazana je kumulativna devijacija inflacije hrane od početne vrijednosti nakon 12 mjeseci zbog ekstremnih temperatura od juna do avgusta. Grafikon je zasnovan na kombinaciji elastičnosti povećanja temperature od 1°C s rezultatima iz 21 globalnog klimatskog modela. Predviđene temperature ljeta nalik 2022. (tj. u gornjem repu distribucije temperature) u budućim klimama su izvučene iz rezultata klimatskog modela pod optimističnim ("ispod 2°C do 2100" prema Reprezentativnom putu koncentracije (RCP) 2.6) i pesimističkim ("svijet toplih kuća" prema RCP8.5) scenario emisija. Uticaji bi se mogli smanjiti ambicioznim prilagođavanjem toplijoj klimi.

### IMPLIKACIJE ZA CENTRALNE BANKE

Ova situacija ima duboke implikacije na osnovni zadatak centralnih banaka da očuvaju stabilnost cijena. Dozvolite mi da pomenem neke od njih.

Prvo, dokazi podvlače kako ekstremno vrijeme, kao što su neuobičajeno vruća ljeta, utiče i na nivo inflacije i na njenu volatilnost. Na primjer, istraživanje ECB-a procjenjuje da je ekstremna ljetna vrućina 2022. povećala inflaciju hrane u Evropi za oko 0,7 procentnih poena kumulativno tokom 12 mjeseci. Ovi efekti bi mogli biti još izraženiji u budućnosti, povećavajući se na 1% u 2035. i na skoro 2% u 2060. (Grafikon 3). U širem smislu, klimatske promjene bi mogle povećati učestalost šokova na strani ponude, s kojima je teže izaći na kraj, potrebno

krizom, što smanjuje prostor za neophodne investicije u zelenu tranziciju.

Ali ne bismo trebali pogriješiti: odlaganje tranzicije bilo bi skuplje. Rezultati testiranja otpornosti na stres za cijelu ekonomiju ECB-a pokazuju da su troškovi tranzicije niži od dugoročnih troškova nesmanjenih klimatskih promjena.

U širem smislu, klimatske promjene bi mogle povećati učestalost šokova na strani ponude, s kojima je teže izaći na kraj, potrebno



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„The ECB research estimates that the extreme summer heat in 2022 increased food inflation in Europe by around 0.7 percentage points cumulatively over 12 months

This trend of rising temperatures and related damages is more problematic than ever. Our economies have not yet devised a way to properly allocate the risks of negative climate events to entities capable of dealing with them, as reflected in low insurance coverage. According to a joint report by the ECB and the European Insurance and Occupational Pensions Authority (EIOPA), only a quarter of losses from extreme weather and climate events in the EU are insured. Insurance coverage is even lower among the less affluent parts of the population, who tend to own housing that is more exposed to

natural catastrophe risks and who, in relation to their income levels, face a higher cost of protection.

Although it is leading the transformation at global level, and despite the considerable efforts made so far, the EU is currently not yet on track to meet its climate targets for 2030 and 2050. Further action is needed.

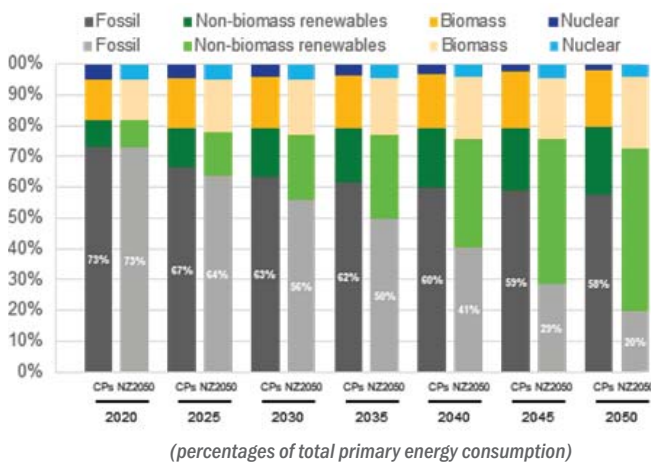
The Network for Greening the Financial System (NGFS), which brings together central banks and supervisors working on climate issues around the world, has developed scenarios to assess how economies might look on different climate policy paths. These scenarios underline that to achieve the net zero target by 2050 the share

of fossil fuels in the EU energy mix must be reduced from around 73% in 2020 to around 20% in 2050, However, current policies would only reduce it to slightly below 60% (Chart 1, panel a). Under current policies, we would fall well short of the net zero target in 2050. Even if all existing national pledges were fulfilled, there would still be a large gap (Chart 1, panel b).

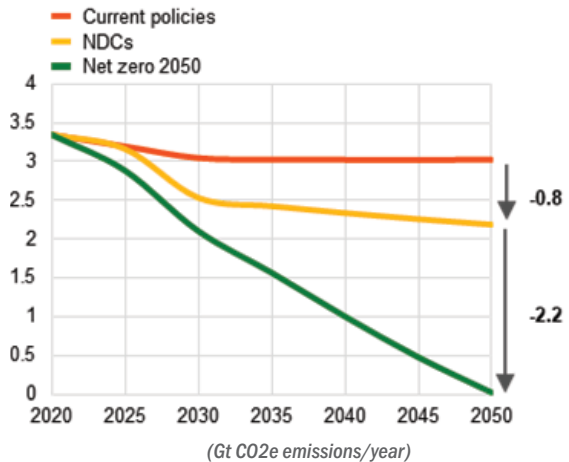
Nationally determined contributions scenario (NDCs): includes all pledged policies, even if not yet implemented, resulting in a moderate and heterogeneous climate goal that leads to a decline in CO2 emissions but only limits global heating to 2.6°C. Net zero 2050 (NZ2050) scenario: assumes that stringent climate policies are implemented and innovations take place, limiting global warming

Chart 1 EU primary energy mix and EU greenhouse gas emissions under different NGFS scenarios from 2020 until 2050

a) EU primary energy mix under current policies and net zero 2050 scenarios



b) EU greenhouse gas emissions under current policies, nationally determined contributions (NDCs) and net zero 2050 scenarios



Source: NGFS. Data is derived from the GCAM 6.0 NGFS model covering the EU27.

Notes: Current policy scenario (CPs): assumes that only currently implemented policies are maintained, leading to high physical risks.

im je više vremena da se ponovo apsorbuju i rezultiraju velikim gubicima prihoda i zaposlenosti, jer podstiču inflaciju i smanjuju ekonomski rast.

Drugo, spora zelena tranzicija povećava ekonomski uticaj ovih šokova ponude. Evropa je platila visoku cijenu za svoju zavisnost od fosilnih goriva kada je ruski agresivni rat u Ukrajini izazvao nagli rast cijena energenata i skok inflacije. Uzeto zajedno, povećanje cijena energije i energetski osjetljivih dobara i usluga doprinijelo je oko 6 procentnih poena inflaciji eurozone na svom vrhuncu iznad 10% u oktobru 2022. (Grafikon 4). Veća dostupnost obnovljive energije smanjila bi veličinu šoka.

Treće, osim inflacije, klimatske promjene i ekstremni vremenski događaji takođe mogu uticati na

kapital i produktivnost rada. Na primjer, studije su otkrile da povećanje temperature za 1°C iznad 25°C smanjuje produktivnost za otprilike 2%. Klimatske promjene ograničavaju potencijalni rast proizvodnje i produktivnosti, smanjujući na taj način nivo na kojem rast BDP-a i realni dobiti plata mogu postati inflatorni. Takođe može biti teško predvidjeti uticaj na prirodnu kamatnu stopu, odnosno na realnu kamatnu stopu koja nije ni ekspanzivna ni kontrakciona, što otežava vođenje monetarne politike. Povećanje šteta i neizvjesnosti uzrokovanih klimom može smanjiti rast produktivnosti, povećati štednju iz predostrožnosti i stoga umanjiti prirodnu kamatnu stopu, dok bi investicije i inovacije koje proizlaze iz tranzicionih politika mogle pozitivno uticati na to.

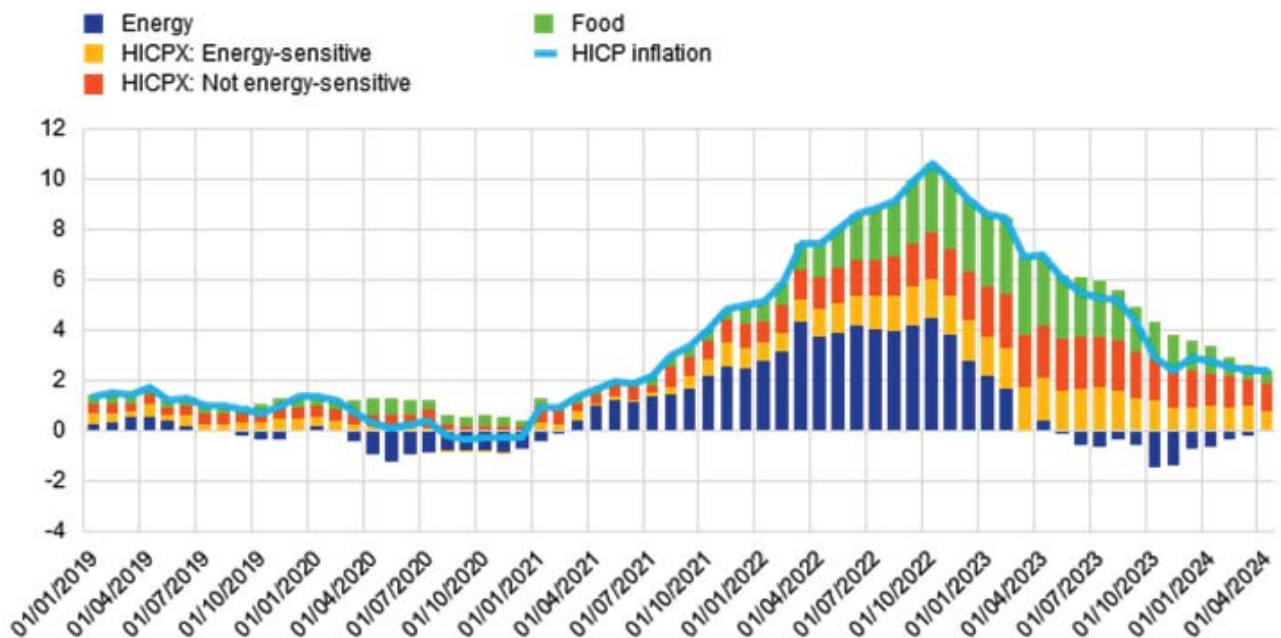
Četvrto, klimatske promjene, ako nisu pravilno ocijenjene, podrazumijevaju finansijske rizike za bilans stanja centralne banke. Precizna procjena ovih rizika je stoga ključna za zaštitu bilansa ECB-a. Isto tako, bilansi banaka se suočavaju sa sličnim finansijskim rizicima, koji po materijalizaciji mogu uticati na njihovu stabilnost, a time i na mehanizam transmisije monetarne politike.

### ULOGA ECB-A

Dakle, šta ECB može učiniti u okviru svog mandata?

### Uspostavljanje pravih okvirnih uslova

Odluke ECB o monetarnoj politici vođene su našim primarnim ciljem, a to je stremljenje ka stabilnosti



Grafikon 4  
Doprinosi komponenti naslovne HICP inflacije eurozone

Izvor: proračuni Eurostata i ECB.

Napomene: HICP je Harmonizovani indeks potrošačkih cijena (HICP). HICPX se odnosi na HICP inflaciju isključujući hranu i energiju, i može se raščlaniti na HICP neenergetska industrijska dobra (NEIG) i HICP usluge. Stavke su klasifikovane u energetski osjetljive i neosjetljive na energiju na nivou podstavki (COICOP5). Stavka u okviru usluga HICP NEIG i HICP klasifikovana je kao energetski osjetljiva ako je njen udio u troškovima ulazne energije veći od prosječnog udjela u troškovima ulazne energije za, respektivno, HICP NEIG i usluge. Posljednje opažanje: april 2024.

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to 1.5°C, reaching net zero CO2 emissions by 2050.

To put the scale of action required into context, consider the investment required to meet the EU’s green transition objectives. The European Commission has estimated that additional investment of €620 billion a year will be needed between 2023 and 2030 (Chart 2). This amounts to 3.7% of the EU’s 2023 GDP. In addition to this, the EU will also need to invest in climate resilience to prepare for the effects of climate change that can no longer be avoided. Global temperatures are indeed on a trajectory that is far above the Paris Agreement goals.

We are therefore now at the next stage of the tragedy of the horizon. Since we did not invest enough in the past, when the impacts seemed far off, we are now confronted with higher costs in terms of both the impact climate change is having on our economy today

and the investment required to mitigate future damage. And we are exposed to a vicious cycle, where the economy finds itself caught in a continuous loop of crisis management, which reduces the scope for making the necessary investments in the green transition.

But we should make no mistake: delaying the transition would be more costly. Results from ECB economy-wide top-down stress test show that transition costs are lower than the long-term costs of unabated climate change.

**IMPLICATIONS FOR CENTRAL BANKS**

This situation has profound implications for central banks’ core task of preserving price stability.

Let me mention a few of them.

First, evidence underscores how extreme weather, such as unusually hot summers, affects both the level of inflation and its volatility. For example, ECB research estimates that the extreme summer heat in 2022 increased food inflation in Europe by

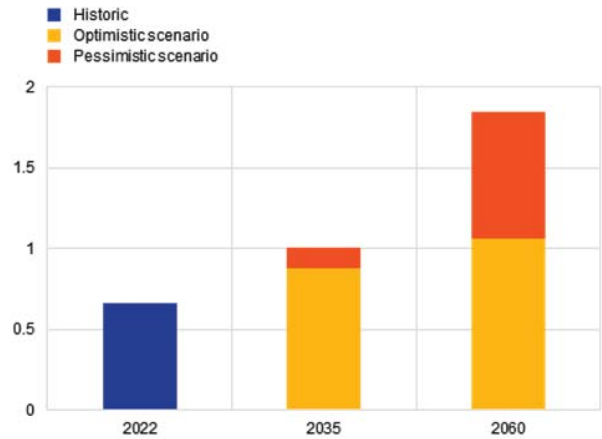


Chart 3  
Impact of heatwaves on food price inflation (percentage points)

Sources: Kotz et al (2023).

Notes: Estimated with a global panel regression approach using monthly prices and high-resolution climate data. Cumulative deviation of food inflation from baseline after 12 months due to extreme temperatures from June to August are shown. The chart is based on combining elasticities of a 1°C increase in temperatures with results from 21 global climate models. Projected temperatures of a 2022-like summer (i.e. in the upper tail of the temperature distribution) in future climates are retrieved from climate model results under an optimistic (“below 2°C by 2100” according to Representative Concentration Pathway (RCP) 2.6) and a pessimistic (“hot house world” according to RCP8.5) emissions scenario. Impacts could be reduced through ambitious adaptation to warmer climates.

around 0.7 percentage points cumulatively over 12 months. These effects could be even more pronounced in the future, increasing to 1% in 2035 and to almost 2% in 2060 (Chart 3). More broadly, climate change could increase the frequency of supply side shocks, which are more difficult to deal with, take longer to be reabsorbed and result in high losses in income and employment, as they push inflation up and economic growth down.

Second, a slow green transition increases the economic impact of these supply shocks. Europe paid a high price for its dependence on fossil fuels when Russia’s war of aggression in Ukraine triggered a sharp rise in energy prices and a spike in inflation. Taken together, the increase in prices of energy and energy-sensitive goods and services contributed around

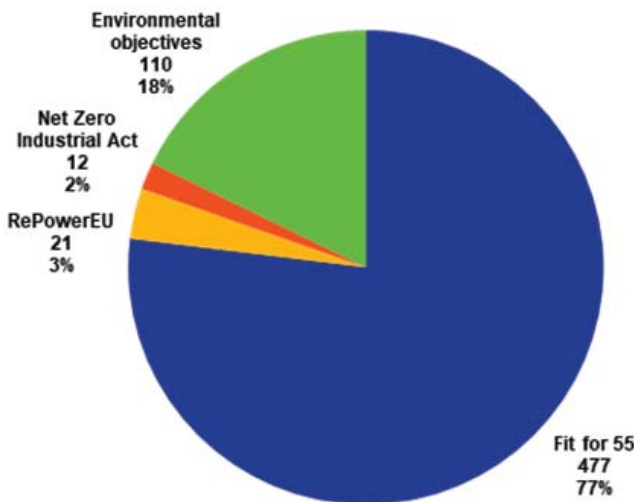


Chart 2  
EU additional annual investment needs to meet the European Green Deal objectives, 2023-2030 (EUR billions per year and percentages)

Source: European Commission.

Notes: Average annual investment needs to meet the objectives set out under various EU initiatives related to the green transition in addition to historical investments (2011-2020).

## „Posebno smo preduzeli mjere kako bismo osigurali da banke upravljaju rizicima vezanim za klimu i životnu sredinu

cijena, definisanoj kao cilj od 2% inflacije na srednji rok. Ne dovođeći u pitanje ovaj primarni cilj, ECB i nacionalne centralne banke podržavaju opštu ekonomsku politiku u Evropskoj uniji sa ciljem da pomognu u postizanju njenih ciljeva. Ovo uključuje podršku zelenoj tranziciji privrede u skladu sa klimatskim ciljevima EU. Imamo na umu i naš primarni i sekundarni cilj kada je u pitanju suočavanje sa klimatskim promjenama.

Težeći stabilnosti cijena, doprinosimo stabilnom i predvidljivom makroekonomskom okruženju. Ovo je neophodno za stvaranje resursa i podsticaja potrebnih za dugoročno planiranje i ulaganje u zelenu tranziciju.

To znači da moramo preduzeti neophodne radnje kada inflacija odstupa od našeg srednjoročnog cilja. A to je upravo ono što je ECB uradila od jula 2022. godine, pojačavajući da se inflacija brzo spusti sa vrha od 10,6% u oktobru 2022. na 2,4% prošlog mjeseca. Izuzimajući bilo kakve dalje šokove, očekujemo da će inflacija fluktuirati oko trenutnih nivoa u narednim mjesecima prije nego što padne na cilj sljedeće godine. Kako se šokovi ponude popuštaju, konačno možemo usmjeriti pažnju na istovremeno težnju za nižom inflacijom i višim rastom. Najnoviji podaci idu u tom smjeru

naš restriktivni stav monetarne politike. Dakle, iako su stroži uslovi finansiranja privremeno povećali troškove zaduživanja, oni su pomogli da inflatorna očekivanja budu usidrena, povećali povjerenje da će se inflacija vratiti na naš cilj i na kraju doprinijeli nižim troškovima finansiranja dugoročnih projekata vezanih za zelenu tranziciju, na koje su takođe privremeno uticali viši troškovi zaduživanja.

Stabilnost cijena je ključna da nam pomogne da postignemo neto nultu stopu jer omogućava stanovništvu i privrednim društvima da bolje otkriju relativne promjene cijena i da ih uračunaju u svoje odluke. Kako su potrebne opsežne promjene u obrascima potrošnje i proizvodnim tehnologijama da bi se postigao neto nulti scenario, signali cijena su kritični kada se postavljaju pravi podsticaji za zelenu tranziciju. Na primjer, nedavni skok cijena energije doprinio je trajnom smanjenju potrošnje energije i energetskog intenziteta evropske privrede. Evropska komisija je procijenila da je tražnja za prirodnim gasom u EU opala za 18% između avgusta 2022. i marta 2024. godine, premašivši cilj smanjenja od 15% postavljen nakon ruske invazije na Ukrajinu.

Gledajući unaprijed, ključno pitanje za monetarnu politiku je

i povećavaju naše povjerenje da ćemo moći da povučemo

kako riješiti rizik od češćih šokova ponude, čiji su efekti uvećani klimatskim promjenama i nedovoljnim napretkom u zelenoj tranziciji. S jedne strane, centralne banke bi mogle da razmotre bržu reakciju na velike šokove, kako kada se dogode, tako i kada se opuste, kako bi očuvale odgovarajući stav monetarne politike. S druge strane, centralne banke treba da izbjegavaju pretjerano pooštavanje uslova finansiranja kako bi spriječile sve potencijalne inflatorne efekte uzrokovane šokovima koji se još nisu materijalizovali. Ovaj pristup bi mogao da bude kontraproduktivan jer smanjuje potencijalnu proizvodnju i investicije koje bi mogle da povećaju našu otpornost na takve šokove.

### Uključivanje klimatskih promjena u naše zadatke

Osim uspostavljanja pravih okvirnih uslova kao dijela našeg mandata stabilnosti cijena, u svoje zadatke uračunavamo klimatske promjene.

Prvo, od revizije strategije ECB-a za period 2020-2021. integrišemo klimatska razmatranja u okvir naše monetarne politike. U oktobru 2022. počeli smo da naginjemo reinvestiranje naših korporativnih obveznica prema emitentima sa boljim klimatskim performansama. Štaviše, finansijski rizici povezani sa klimom razmatraju se u redovnim pregledima planova smanjenja kolaterala. Takođe

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6 percentage points to euro area inflation at its peak above 10% in October 2022 (Chart 4). Greater availability of renewable energy would have reduced the magnitude of the shock.

Third, beyond inflation, climate change and extreme weather events can also affect the capital stock and labour productivity. For instance, studies have found that a 1°C increase in temperatures above 25°C reduces productivity by roughly 2%. Climate change constrains potential output and productivity growth, thereby reducing the level at which GDP growth and real wage gains may become inflationary. It may also be difficult to anticipate the impact on the natural rate of interest, i.e. the real rate of interest that is neither

expansionary nor contractionary, making it more difficult to conduct monetary policy. Increasing climate-related damages and uncertainty may reduce productivity growth, raise precautionary savings and therefore dampen the natural rate of interest, whereas investment and innovation stemming from transition policies could affect it positively.

Fourth, if not correctly priced in, climate change implies financial risks for the central bank's balance sheet. An accurate valuation of these risks is therefore key to protect the ECB's balance sheet. Likewise, banks' balance sheets face similar financial risks, which upon materialisation may impact their soundness and thus the monetary policy transmission mechanism.

THE ROLE OF THE ECB

So what can the ECB do within its mandate?

Establishing the right framework conditions

The ECB's monetary policy decisions are guided by our primary objective, which is to pursue price stability, defined as a target of 2% inflation over the medium term. Without prejudice to this primary objective, the ECB and national central banks support the general economic policies in the European Union with a view to helping to achieve its objectives. This includes supporting the green transition of the economy in line with the EU's climate objectives. We have both our primary objective and our secondary

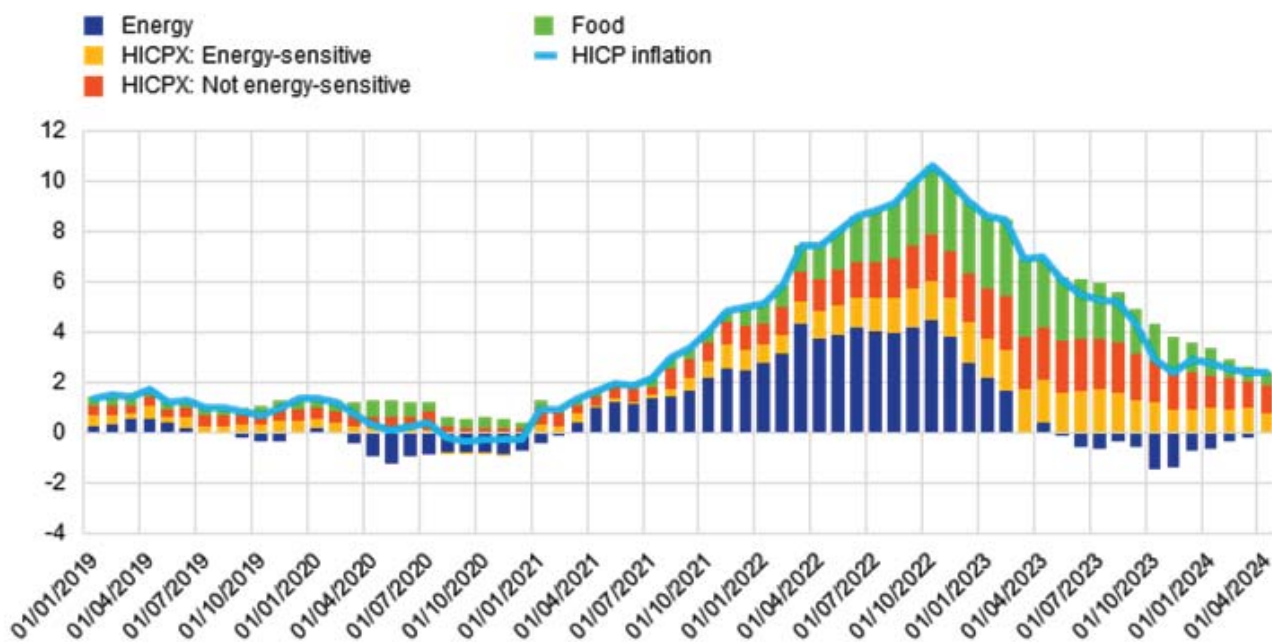


Chart 4  
Contribution of components of euro area headline HICP inflation

Source: Eurostat and ECB calculations.  
Notes: HICP is the Harmonised Index of Consumer Prices (HICP). HICPX refers to HICP inflation excluding food and energy, and can be broken down into HICP non-energy industrial goods (NEIG) and HICP services. Items are classified into energy-sensitive and not energy-sensitive at sub-item level (COICOP5). An item within HICP NEIG and HICP services is classified as energy-sensitive if its energy input cost share is greater than the average energy input cost share for, respectively, HICP NEIG and services. Last observation: April 2024.

## „Prema podacima Evropske komisije, ukupno 578 milijardi eura biće izdvojeno za podršku klimatskim akcijama tokom tekućeg budžetskog perioda od 2021. do 2027. godine

smo 2023. godine počeli da otkrivamo uticaj na klimu našeg portfolija korporativnog sektora koji se vodi u svrhe monetarne i nemonetarne politike na godišnjem nivou. Obavezali smo se da ćemo kontinuirano unapređivati svoja objavljivanja kako se kvalitet i dostupnost podataka poboljšavaju, kao i na proširenje obima ovih objavljivanja na naše druge portfolije monetarne politike.

Nakon nedavnog pregleda našeg operativnog okvira, odlučili smo da uključimo razmatranja vezana za klimatske promjene u naše operacije strukturne monetarne politike. Štaviše, u budućnosti ćemo kao kolateral u kreditnim operacijama Euro sistema prihvatati samo tržišnu imovinu i kreditna potraživanja od kompanija i dužnika koji su u skladu sa Direktivom o izvještavanju o

korporativnoj održivosti. I namjeravamo da ograničimo udio imovine koju izdaju firme sa visokim karbonskim otiskom u kolateralnim fondovima drugih strana nakon što se stvore

neophodni tehnički preduslovi.

Drugo, poduzimamo mjere kao dio naše odgovornosti za superviziju banaka. Posebno smo preduzeli mjere kako bismo osigurali da banke upravljaju rizicima vezanim za klimu i životnu sredinu. Iako su banke postigle napredak u tome posljednjih godina, predstoji još rada u toj oblasti. Banke su takođe i dalje podložne manipulativnom zelenom marketingu i još uvijek nesrazmjerno odobravaju kredite sektorima sa visokom izloženošću riziku vezanom za klimu i stanovištvu sa visokim emisijama.

Treće, preduzimamo mere za smanjenje uticaja novčanica i platnih sistema na životnu sredinu. Na primjer, za novčanice koristimo samo 100% održiv pamuk i zabranili smo odlaganje otpada novčanica na

deponiju. U oblasti platnih sistema, razmatramo ekološke aspekte u dizajnu digitalnog eura.

Četvrto, nastojimo da smanjimo uticaj naše organizacije na životnu sredinu. Od 2010. godine ECB vodi sertifikovani sistem upravljanja životnom sredinom koji pokriva svoje sopstvene operacije. U posljednjih deset godina smanjili smo potrošnju električne energije i grijanja po radnom mjestu za 30%, odnosno 49%. Uzimajući ciljeve smanjenja emisija kao referencu, ECB se 2021. obavezala da će smanjiti otisak vlastitog poslovanja za 46,2% do 2030. godine, uzimajući 2019. kao polaznu liniju.

Konačno, mi igramo ključnu ulogu kroz naše istraživanje i analizu. Osim njihovog direktnog značaja za naše zadatke, naši nalazi mogu biti korisni i za druga područja politike koja podržavaju zelenu tranziciju. Na primjer, mi aktivno doprinosimo radu NGFS-a i pružamo savjete o finansijskom zakonodavstvu kako je predviđeno Ugovorima.

Nedavno smo pregledali napredak koji smo do sada postigli (Grafikon 5). Novi plan ECB-a o klimi i prirodi za 2024.-2025. postavlja našu

Grafikon 5  
ECB je implementirala nekoliko mjera za uključivanje razmatranja klimatskih promjena u svoje aktivnosti

Izvor: ECB.



*„In particular, we have taken measures to ensure that banks manage climate-related and environmental risks*

objective in mind when it comes to dealing with climate change.

By pursuing price stability, we are contributing to a stable and predictable macroeconomic environment. This is essential to generate the resources and incentives required for long-term planning and investment in the green transition.

This means that we must take the necessary action when inflation is deviating from our medium-term target. And that's exactly what the ECB has done since July 2022, helping to bring inflation rapidly down from its peak of 10.6% in October 2022 to 2.4% last month. Barring any further shocks, we expect inflation to fluctuate around current levels in the coming months before falling to our target next year. As supply shocks unwind, we can finally turn our attention to pursuing lower inflation and higher growth simultaneously. Recent data go in that direction and increase our confidence that we will be able to dial back our restrictive monetary policy stance. So although tighter financing conditions have temporarily increased the cost of borrowing, they have helped keep inflation expectations anchored, increased confidence that inflation will return to our target, and ultimately contributed to a lower cost of funding for long-term projects related to the green transition, which were also temporarily affected by higher borrowing costs.

Price stability is crucial to helping us achieve net zero because it enables households and businesses to better detect relative price changes and to factor these into their decisions. As extensive changes in consumption patterns and production technologies are required to achieve the net zero scenario, price signals are critical when setting the right incentives for the green transition. For instance, the recent spike in energy prices contributed to a sustained reduction in energy consumption and the energy intensity of the European economy. The European Commission has estimated that demand for natural gas in the EU declined by 18% between August 2022 and March 2024, exceeding the 15% reduction target set after Russia's invasion of Ukraine.

Looking ahead, a key question for monetary policy is how to address the risk of more frequent supply shocks, the effects of which are magnified by climate change and insufficient progress on the green transition. On the one hand, central banks could consider reacting more quickly to large shocks, both when they occur and when they unwind, to preserve an appropriate monetary policy stance. On the other hand, central banks should avoid excessively tightening financing conditions to pre-empt any potential inflationary effects

caused by shocks that have not yet materialised. This approach could be counterproductive because it reduces potential output and investments that could enhance our resilience to such shocks.

**Factoring climate change into our tasks**

Beyond establishing the right framework conditions as part of our price stability mandate, we are factoring climate change into our tasks.

First, since the ECB strategy review of 2020-2021 we have been integrating climate considerations into our monetary policy framework. In October 2022 we started tilting the reinvestments of our corporate bond holdings towards issuers with a better climate performance. Moreover, climate-related financial risks are considered in regular reviews of collateral haircut schedules. In 2023 we also started disclosing the climate impact of our corporate sector portfolio held for monetary and non-monetary policy purposes annually. We have committed to continuously improving our disclosures as the quality and availability of data improve, and to expanding the scope of these disclosures to our other monetary policy portfolios.

obnovljenu posvećenost poduzimanju mjera, u okviru našeg mandata, za podršku zelenoj tranziciji. Nastavićemo da sprovodimo mjere koje smo već dogovorili u oblastima makroekonomske analize, monetarne politike, bankarske supervizije, klimatskih podataka i sopstvene korporativne održivosti. Pored toga, plan postavlja tri fokusna područja za period 2024-2025: kretanje kroz tranziciju ka zelenoj ekonomiji, rješavanje sve većeg fizičkog uticaja klimatskih promjena i unapređenje rada na gubitku i degradaciji prirode. Ove fokusne oblasti će voditi naš istraživački i analitički rad u narednim godinama.

### Komplementarnost sa drugim politikama

Bez obzira na ove inicijative, važno je naglasiti da primarna odgovornost za vođenje zelene tranzicije

leži na izabranim vladama, koje posjeduju direktnija sredstva i zakonodavnu moć da uvedu potrebne promjene. Pošto postoje važne komplementarnosti između ovih politika i monetarne politike, ECB je spremna da ponudi podršku pružanjem tehničke analize i saveta. Ova razmjena znanja je direktno u okviru našeg primarnog mandata utoliko što će ove druge politike, ublažavanjem rizika od klimatskih promjena, omogućiti instrumentima monetarne politike da efikasnije očuvaju stabilnost cijena.

Dozvolite mi da navedem neke primjere ovih komplementarnosti.

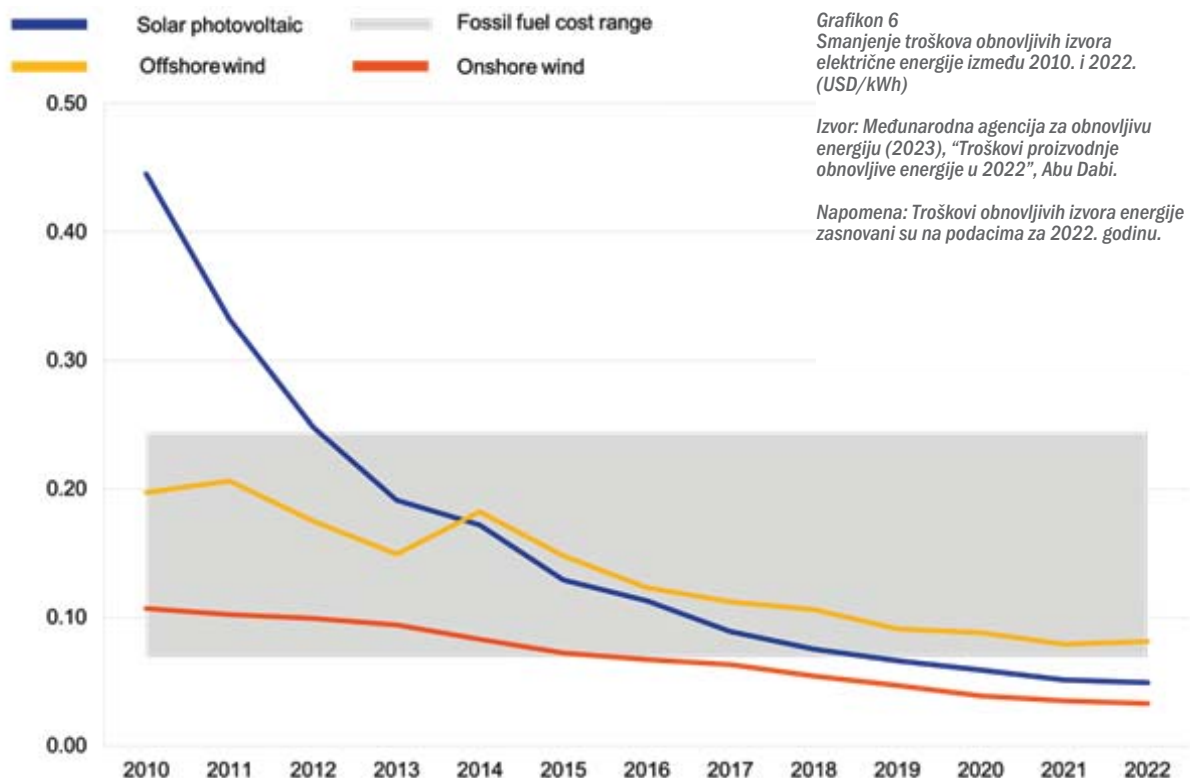
### Rješavanje šokova ponude

Prvi primjer je komplementarnost sa politikama koje imaju za cilj ublažavanje šokova ponude.

Posebno, politike koje podržavaju diverzifikaciju od fosilnih goriva i

povećavaju energetska efikasnost povećavaju otpornost naše ekonomije na šokove koji proizlaze iz cijena energenata, čime se zadržavaju inflatorni pritisak. Izuzetan tehnološki napredak posljednjih godina uveliko je poboljšao efikasnost i smanjio troškove održivih tehnologija. Naime, u periodu od 2010. do 2022. godine došlo je do dramatičnog smanjenja troškova proizvodnje električne energije iz vjetra na moru, vjetra na kopnu i solarne energije za 60%, 70% i 90%, respektivno (Grafikon 6).

U isto vrijeme, napori da se osigura nabavka ključnih sirovina, zajednička kupovina ili podrži inovacije kako bi se smanjila zavisnost od njih mogu pomoći u smanjenju naše izloženosti cijeni i dostupnosti metala i minerala poput bakra ili litijuma koji su kritični za zelenu tranziciju.



Grafikon 6  
Smanjenje troškova obnovljivih izvora električne energije između 2010. i 2022. (USD/kWh)

Izvor: Međunarodna agencija za obnovljivu energiju (2023), "Troškovi proizvodnje obnovljive energije u 2022", Abu Dabi.

Napomena: Troškovi obnovljivih izvora energije zasnovani su na podacima za 2022. godinu.



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„According to the European Commission, a total of €578 billion will be allocated to supporting climate action over the current budgetary period from 2021 to 2027

Following the recent review of our operational framework, we decided to incorporate climate change-related considerations into our structural monetary policy operations. Moreover, in the future we will only accept marketable assets and credit claims from companies and debtors that comply with the Corporate Sustainability Reporting Directive as collateral in Eurosystem credit operations. And we intend to limit the share of assets issued by firms with a high carbon footprint in the collateral pools of counterparties once the necessary technical preconditions are in place.

Second, we are taking action as part of our responsibility for supervising banks. In particular, we have taken measures to ensure that banks manage climate-related and

environmental risks. While banks have made progress on this in recent years, more works lies ahead. Banks also remain susceptible to greenwashing and they still lend disproportionately to sectors with high exposure to climate-related risk and to high-emitting households.

Third, we are taking measures to reduce the environmental footprint of banknotes and payment systems. For example, for banknotes, we use only 100% sustainable cotton and banned the disposal of banknote waste in landfill. In the field of payment systems, we are considering environmental aspects in the design of a digital euro.

Fourth, we are seeking to reduce our organisation’s environmental footprint. Since 2010 the ECB has run a certified environmental management system covering its own operations. In the last ten years we reduced electricity and heating consumption per workplace by 30% and 49% respectively. Taking emission

reduction targets as a reference, in 2021 the ECB committed to reducing its own operations’ footprint by 46.2% by 2030, taking 2019 as a baseline.

Finally, we play a key role through our research and analysis. Beyond their direct relevance to our tasks, our findings may also be useful for other policy areas supporting the green transition. For example, we contribute actively to the work of the NGFS and provide advice on financial legislation as foreseen under the Treaties.

We recently took stock of the progress we have made so far (Chart 5). The ECB’s new climate and nature plan 2024-2025 sets out our renewed commitment to take action, within our mandate, to support the green transition. We will continue to implement measures that we have already agreed upon in the fields of macroeconomic analysis, monetary policy, banking supervision, climate-related data and our own corporate sustainability. In addition, the plan sets out three focus areas for 2024-25: navigating the transition to a green economy,

Chart 5  
The ECB has implemented several measures to incorporate climate change considerations into its activities

Source: ECB.



*„Najveći dio sredstava za tranziciju moraće da dođe iz privatnih izvora finansiranja. U eurozoni, banke će igrati ključnu ulogu u podršci investicijama i usvajanju zelenih tehnologija od strane firmi i domaćinstava*

Isto tako, mjere za ublažavanje uticaja skokova cijena energije fosilnih goriva na stanovništvo i privredna društva mogu se osmisliti tako da se ne potisne signal cijene, što je ključno za pružanje podsticaja za smanjenje potrošnje i zavisnosti od fosilnih goriva.

**Ublažavanje negativnog uticaja klimatskih promjena na produktivnost i potencijalnu proizvodnju**

Drugo, druge politike mogu ublažiti negativan uticaj klimatskih promjena na produktivnost i potencijalni učinak.

Sistem trgovanja emisijama (ETS) EU je ključno sredstvo politike za podršku zelenoj tranziciji efektivnim podsticanjem privatnog sektora da usvoji čistije tehnologije i procese. Ova politika ne samo da je doprinijela smanjenju emisija, već je i podstakla inovacije u zelenim tehnologijama.

Politike koje podržavaju inovacije i primjenu tehnologija obnovljivih izvora energije takođe mogu donijeti visoke prinose. Značajno je da napredak u obnovljivim izvorima energije, skladištenju baterija i pametnim mrežama možda dostiže prekretnicu:

kako ova rješenja postaju sve šire prihvaćena i razvijena, ona podstiču daljnju primjenu, stvarajući ciklus inovacija i ulaganja koji se samo-ojačava. U tom smislu, vrijedno je podsjetiti da bi nam integracija evropskog energetskeg tržišta – stvaranjem istinske energetske unije – omogućila da ostvarimo koristi u smislu obima i diversifikacije, što bi dovelo do povećanja efikasnosti i veće otpornosti.

Ovo je takođe važno za konkurentnost Evrope. Kao i kod digitalizacije, mogućnost ponude vodećih svjetskih tehnologija, proizvoda i usluga potrebnih za zelenu tranziciju odlučice o budućim pobjednicima i gubitnicima u globalnoj trci produktivnosti.

**Mobilizacija sredstava za pokrivanje investicionih potreba**

Treće, dozvolite mi da naglasim komplementarnost sa makroekonomskim politikama koje imaju potencijal da generišu korisne resurse za zelenu tranziciju i da ih efikasno mobilišu u tu svrhu.

EU već posvećuje veliki dio svojih sredstava za zelene ciljeve. Prema

podacima Evropske komisije, ukupno 578 milijardi eura biće izdvojeno za podršku klimatskim

akcijama tokom tekućeg budžetskog perioda od 2021. do 2027. godine, oko 33,5% ukupnog portfolija. Instrument koji treba da da najveći doprinos je Instrument za oporavak i otpornost (RRF), koji čini 35% ukupnog budžeta za klimatske akcije (Grafikon 7). Ali RRF je privremeno sredstvo. Nakon što se prekine 2026. godine, budžet EU za zelenu tranziciju značajno će se smanjiti kao rezultat efekta naglog pada.

Dalji naponi da se mobilizuju fiskalni resursi na nivou EU mogu uključivati određenu promjenu prioriteta u budžetu EU, povećanje vlastitih resursa EU, kao i promovisanje novih inicijativa zajedničkog izdavanja duga za finansiranje ulaganja u prava evropska javna dobra – na primjer energetske mreže i međusobne veze. Možemo i treba da učimo iz naših iskustava sa postojećim instrumentima kako bismo dizajnirali efektivne alate.

Ali najveći dio sredstava za tranziciju moraće da dođe iz privatnih izvora finansiranja. U eurozoni, banke će igrati ključnu ulogu u

**ALSO INFLUENCE SIGNIFICANTLY THE BANKING INDUSTRY**

addressing the increasing physical impact of climate change and advancing work on nature loss and degradation. These focus areas will guide our exploratory and analytical work in the coming years.

**Complementarity with other policies**

Notwithstanding these initiatives, it is important to emphasise that the primary responsibility for leading the green transition lies with elected governments, which possess more direct tools and the legislative power to enact the necessary changes. Since there are important complementarities between these policies and monetary policy, the ECB stands ready to offer support by providing technical analysis and advice. This knowledge sharing lies squarely within the scope of our

primary mandate insofar as these other policies, by mitigating climate change risks, will allow monetary policy instruments to more effectively preserve price stability.

Let me provide some examples of these complementarities.

**Addressing supply shocks**

A first example is the complementarity with policies aimed at cushioning supply shocks.

In particular, policies that support diversification away from fossil fuels and increase energy efficiency enhance the resilience of our economy to shocks stemming from energy commodities prices, thereby containing inflationary pressures. Remarkable technological advances in recent years have greatly enhanced the efficacy and reduced the cost of sustainable technologies.

Notably, the period from 2010 to 2022 saw dramatic decreases in the cost of producing electricity from offshore wind, onshore wind and solar energy by 60%, 70% and 90% respectively (Chart 6).

At the same time, efforts to secure the supply of key raw materials, jointly purchase them or support innovation to reduce dependency on them can help lessen our exposure to the price and availability of metals and minerals like copper or lithium that are critical for the green transition.

Likewise, measures to ease the impact on households and businesses of fossil fuel energy price spikes can be designed so as not to suppress the price signal, which is key for providing incentives to reduce consumption of and dependency on fossil fuels.[38]

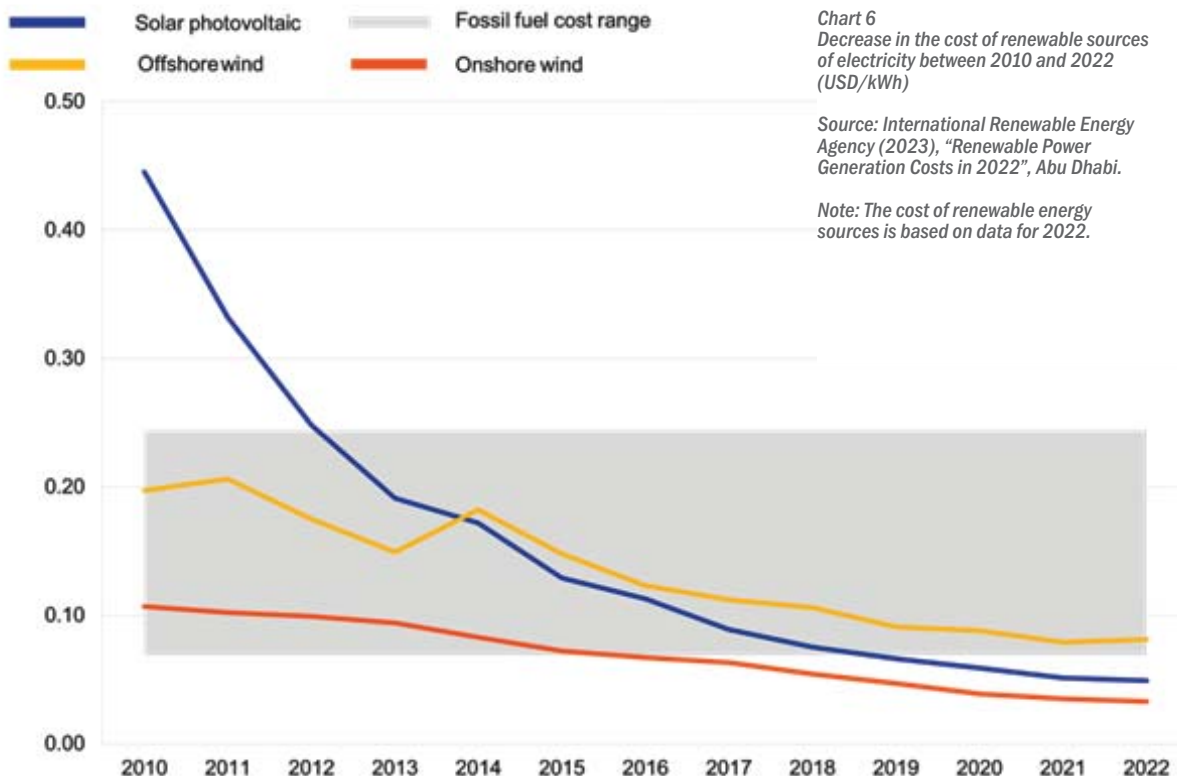


Chart 6  
Decrease in the cost of renewable sources of electricity between 2010 and 2022 (USD/kWh)

Source: International Renewable Energy Agency (2023), "Renewable Power Generation Costs in 2022", Abu Dhabi.

Note: The cost of renewable energy sources is based on data for 2022.



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**Mitigating the negative impact of climate change on productivity and potential output**

Second, other policies can mitigate the negative impact of climate change on productivity and potential output.

The EU’s Emissions Trading System (ETS) is a key policy tool for supporting the green transition by effectively incentivising the private sector to adopt cleaner technologies and processes. This policy has not only contributed to a reduction in emissions but has also spurred innovation in green technologies.

Policies that support innovation and the deployment of renewable

energy technologies can also yield high returns. Notably, advancements in renewable energy sources, battery storage and smart grids are possibly reaching a tipping point: as these solutions become more widely adopted and developed, they encourage further deployment, creating a self-reinforcing cycle of innovation and investment. In this respect, it is worth recalling that the integration of the European energy market – by creating a genuine energy union – would allow us to reap benefits in terms of scale and diversification, leading to both increased efficiency and greater resilience.

This also matters for Europe’s competitiveness. As with digitalisation,

the ability to offer the world-leading technologies, products and services needed for the green transition will decide tomorrow’s winners and losers in the global productivity race.

**Mobilising funding to cover investment needs**

Third, let me emphasise the complementarity with macroeconomic policies that have the potential to generate useful resources for the green transition and to mobilise them effectively for this purpose.

The EU already dedicates a large share of its funding to green objectives. According to the European Commission, a total of €578 billion will be allocated to supporting climate action over the current budgetary period from 2021 to 2027, around 33.5% of the overall portfolio. The instrument set to make the largest contribution is the Recovery and Resilience Facility (RRF), which accounts for 35% of the overall climate action budget (Chart 7). But the RRF is a temporary tool. Once it is discontinued in 2026, the EU budget for the green transition will shrink significantly as a result of the cliff effect.

Further efforts to mobilise fiscal resources at EU level may include some reprioritisation of the EU budget, an increase in the EU’s own resources, as well as the promotion

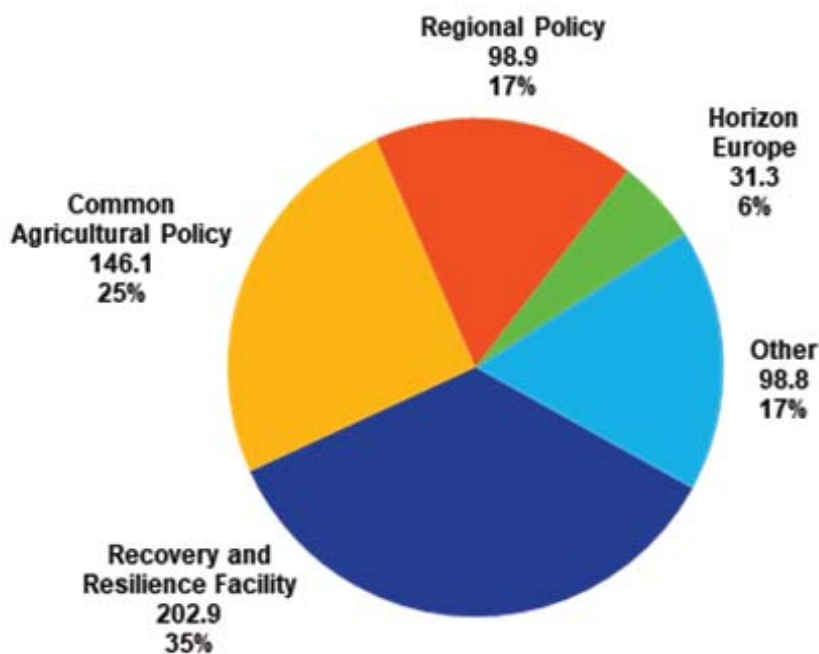
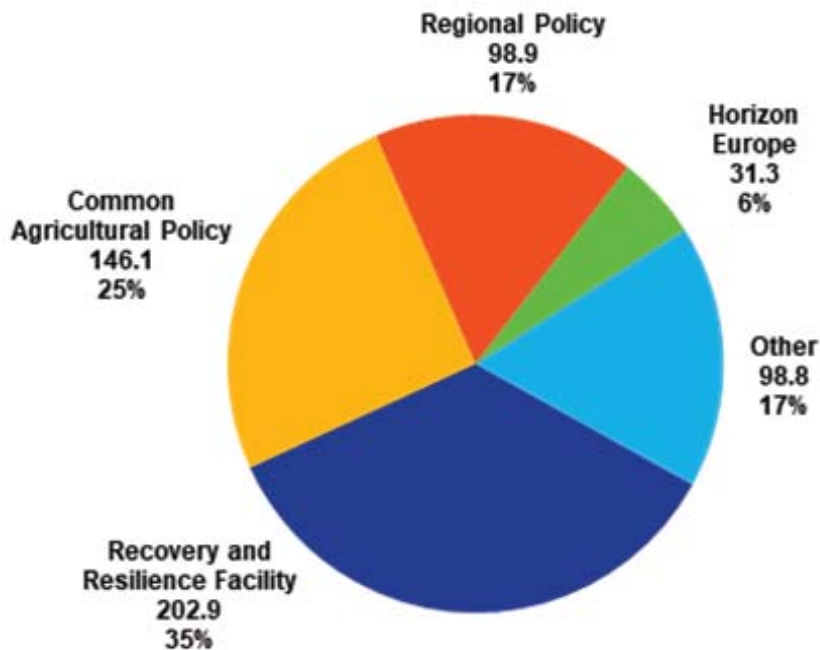


Chart 7  
Commitments under the European Commission’s Multiannual Financial Framework 2021-2027 and Next Generation EU that contribute to climate mainstreaming, as a share of the EU’s total green budget, by programme (€ billions and percentages)

Sources: European Commission Programme Performance Statements and ECB calculations.



Grafikon 7  
Obaveze u okviru Višegodišnjeg finansijskog okvira Evropske komisije 2021-2027 i EU sljedeće generacije koje doprinose uključivanju klimatskih promjena, kao udjela u ukupnom zelenom budžetu EU, po programima (milijarde eura i procenti)

Izvori: Izjave o učinku programa Evropske komisije i proračuni ECB

podrški investicijama i usvajanju zelenih tehnologija od strane firmi i domaćinstava. Međutim, ključni cilj politike EU je dalji razvoj tržišta kapitala, koji bi mogao da obezbi- jedi specijalizovano finansiranje i podrži inovacije.

Tržište zelenih finansijskih proizvoda značajno je poraslo posljednjih godina, ali ima prostora za veći napredak. U nedavnom izvještaju o budućnosti jedinstvenog tržišta, Enriko Leta je ukazao na potrebu boljeg usmjeravanja privatne štednje u zelenu tranziciju. Napomenuo je da se na tekućim računima u EU nalazi oko 33 triliona eura privatne štednje, koja se stoga ne koristi u potpunosti za zadovoljavanje investicionih potreba.

Bolje usmjeravanje ovih privatnih sredstava moglo bi da pruži značajan

podsticaj ciljevima zelenih ulaganja EU. Da bi se to postiglo, neophodno je ostvariti dalji napredak na zao- kruživanju unije tržišta kapitala. U tom smislu, EU bi takođe mogla da istraži obim mjera koje ciljaju na zelene segmente tržišta kapitala.

## ZAKLJUČAK

Da zaključim, hitna potreba za borbom protiv klimatskih promjena ne može se precijeniti. Trebali smo djelovati juče, a sigurno ne možemo priuštiti da čekamo do sutra.

Klimatske promjene se ubrzavaju dok govorimo i imaju važne implikacije za centralne banke jer utiču na inflaciju i izloženost šokovima ponude, istovremeno smanjujući potencijalnu proizvodnju i rast produktivnosti. To takođe stvara

finansijske rizike za bilans stanja centralne banke.

Dakle, suočavamo se sa dva međusobno isključiva puta: ili ćemo izabrati nedjelovanje i naći se zarobljeni u začaranom krugu stalnog reagovanja na eskalirajuće krize ili ćemo proaktivno nastojati da spriječimo pojavu novih klimatskih i energetske krize kroz zdravu i koordiniranu politiku.

U ECB smo nepokolebljivi u našoj opredijeljenosti da podržimo zelenu tranziciju u okviru našeg mandata. Međutim, to nije zadatak koji možemo izvršiti sami. To zahtijeva zajedničke napore svih zainteresovanih strana širom Evrope. Zauzvrat, mi kao centralne banke možemo imati koristi od ovih napora u ostvarivanju naših ciljeva.

Konkretno, EU će morati da implementira snažne politike ponude kako bi se udaljila od fosilnih goriva, poboljšala energetske efikasnost i osigurala dostupnost ključnih sirovina. Da bismo naše ambicije pretvorili u opipljive rezultate, neophodna su značajna ulaganja. Udruživanjem resursa širom Evrope i uspostavljanjem jake unije tržišta kapitala, možemo privući značajan privatni kapital – i usmeriti ga ka održivim projektima.

Put koji je pred nama je izazovan, ali Evropa ima dokazanu reputaciju da uspije kada je to najvažnije.

*„The bulk of the funding for the transition will have to come from private funding sources. In the euro area, banks will play an essential role in supporting investment and the adoption of green technologies by firms and households*

of new joint debt issuance initiatives to fund investment in genuine European public goods – for instance energy grids and interconnections. We can and should learn from our experiences with existing instruments to design effective tools.

But the bulk of the funding for the transition will have to come from private funding sources. In the euro area, banks will play an essential role in supporting investment and the adoption of green technologies by firms and households. However, a key EU policy objective is to further develop capital markets, which could provide specialised funding and support innovation.

The market for green financial products has grown significantly in recent years, but there is room for more progress. In a recent report on the future of the Single Market, Enrico Letta pointed to the need to better channel private savings into the green transition. He noted that there are approximately €33 trillion in private savings sitting in current accounts in the EU, which are therefore not being fully leveraged to meet investment needs.

Better channelling these private funds could provide a substantial boost to the EU's green investment goals. To achieve this, it is essential to make further progress on completing the capital markets union. In this respect, the EU could also explore the scope for measures that target green segments of capital markets.

#### CONCLUSION

In conclusion, the urgent need to combat climate change cannot be overstated. We should have acted yesterday, and we certainly cannot afford to wait until tomorrow.

Climate change is accelerating as we speak and it has important implications for central banks because it has an impact on inflation and the exposure to supply shocks, while lowering potential output and productivity growth. It also creates financial risks for the central bank's balance sheet.

So we face two mutually exclusive paths: either we choose inaction and find ourselves trapped in a vicious cycle of constantly responding to escalating crises or we proactively

seek to prevent the emergence of new climate and energy crises through sound and coordinated policies.

At the ECB, we are steadfast in our commitment to support the green transition within the scope of our mandate. However, this is not a task we can accomplish alone. It requires a collective effort by all stakeholders across Europe. In turn, we as central banks can benefit from these efforts in the pursuit of our objectives.

Specifically, the EU will need to implement robust supply side policies to move away from fossil fuels, enhance energy efficiency and ensure the availability of key raw materials. To transform our ambitions into tangible outcomes, substantial investments are necessary. By pooling resources across Europe and establishing a strong capital markets union, we can attract significant private capital – and direct it towards sustainable projects.

The path ahead is challenging, but Europe has a proven track record of rising to the occasion when it matters most.



Ondřej Slivka,  
Menadžer za  
marketing u  
Dateio

# Trendovi, inicijative i budućnost zelenog bankarstva

"Borba protiv klimatskih promjena je suštinska komponenta globalne agende održivosti i ona u kojoj finansijske usluge mogu dati važan doprinos"

Međutim, sve do nedavno, finansijski sektor i njegove tradicionalne institucije bili su imuni na bilo kakve inovacije: tek posljednjih godina bili su podstaknuti na akciju rastućom konkurencijom agilnijih start-upova koji su u potpunosti iskoristili nove tehnologije i promjene u zakonodavstvu i regulativi (otvoreno bankarstvo i finansije, PSD2, API).

## ZELENA EVROPA: TRAZNJA ODREĐUJE PONUDU

Ne samo institucije već i pojedinci mijenjaju svoj pristup klimatskim promjenama. Specijalno istraživanje o klimatskim promjenama Eurobarometar

iz 2021. pokazalo je da 93% Evropljana smatra klimatske promjene ozbiljnim problemom, a 96% je preduzelo mjere za borbu protiv njih. Britanska studija koji je uradio Deloitte 2021. godine otkrila je da je 8% ispitanika već preusmjerilo dio svojih ličnih ulaganja ka etičkim i održivim opcijama, a 34% je posebno odabralo brendove zbog njihovih održivih praksi i vrijednosti.

Povrh svega, početkom prošle godine (2021.) Mastercard je sproveo anketu među potrošačima u 24 zemlje na svim kontinentima, što je pokazalo da je velika većina (85%) odraslih spremna dati lični doprinos rješavanju pitanja životne sredine i održivosti.

Gdje postoji tražnja, postoji i ponuda, pa se pojavljuje sve više institucija i inicijativa koje se fokusiraju na specifičnu tržišnu nišu – klijente kojima je stalo do planete i životne sredine, a ne do masa.





# Trends, initiatives and the future of green banking

Ondřej Slivka, Marketing manager in Dateio

"Tackling climate change is an essential component of the global sustainability agenda and one in which financial services can make an important contribution"

However, until recently, the financial sector and its traditional institutions have been immune to any innovation: only in recent years have they been spurred into action by growing competition from more agile start-ups that have taken full advantage of new technologies and changes in legislation and regulation (open banking and finance, PSD2, APIs).

## GREEN EUROPE: DEMAND DETERMINES SUPPLY

Not only institutions but also individuals are changing their approach to climate change. A special Eurobarometer Climate Change survey

in 2021 showed that 93% of Europeans consider climate change to be a serious problem and a full 96% have taken action to combat it. A UK study by Deloitte in 2021 found that 8% of respondents had already shifted some of their personal investments towards ethical and sustainable options, and a full 34% had specifically chosen brands because of their sustainable practices and values.

To top it all off, early last year (2021) Mastercard conducted a survey among consumers in 24 countries across all continents, which showed that a large majority (85%) of adults are willing to make a personal contribution to tackling environmental and sustainability issues.

Where there is demand, there is supply, and so more and more institutions and initiatives are emerging to focus on a specific niche market - clients who care about the planet and the environment, rather than the masses.





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„According to the *Climate Fintech report by New Energy Nexus*, there were 250 climate fintech companies in the world in 2020, including billion-dollar businesses

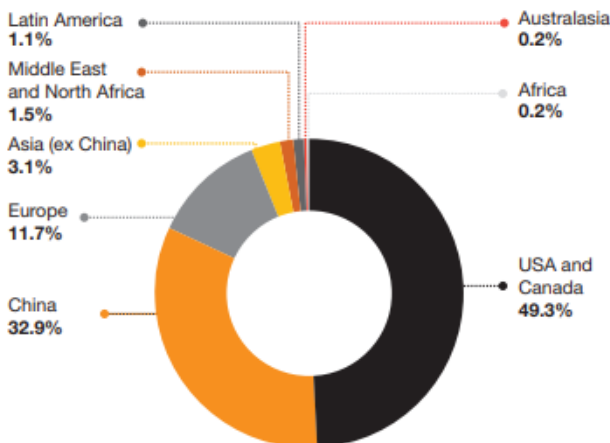
**GREEN AND CLIMATE FINTECH: WHAT IT IS AND WHAT ROLE IT WILL PLAY**

Activities combining the environment (which encompasses climate), finance and digital technologies are most often mentioned in the context of alternative players, financial technology startups and companies. We are talking about so-called green or climate fintech.

According to the *Climate Fintech report by New Energy Nexus*, there were 250 climate fintech companies in the world in 2020, including billion-dollar businesses and tech unicorns such as Tesla, Beyond Meat and Nest. Today, 8% of all European and UK fintechs using open banking APIs already offer a sustainable product and, according to PwC, the demand for the solutions that climate fintech can offer will

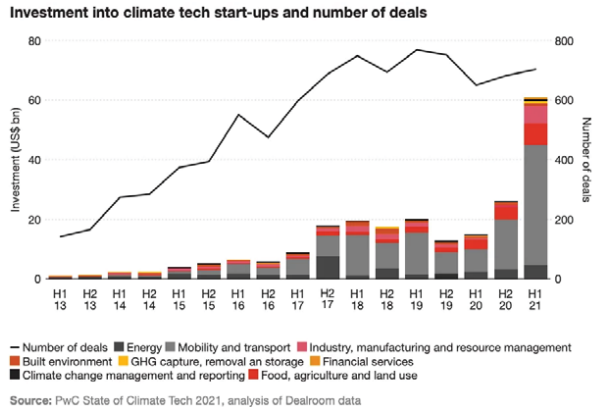
**Overall breakdown of investment by startup region**

The geographical split shows that nearly half of all venture dollars in climate tech startups, \$29 billion, went to startups in the USA and Canada. China is the second most significant region at \$20 billion. The European market is approximately a third of China's at \$7 billion invested.



Source: PwC analysis on Dealroom data

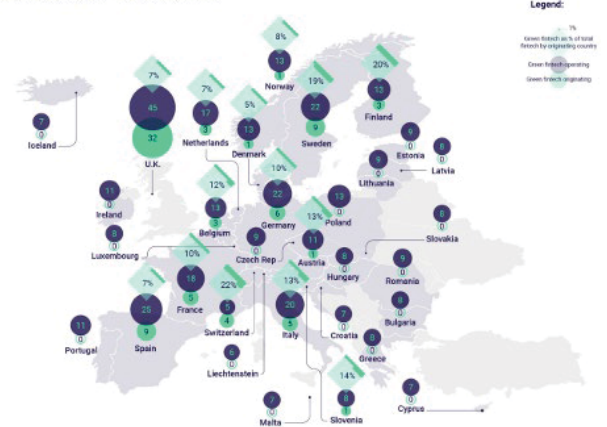
only increase in the future as more and more companies, investors and governments commit to the so-called 'net-zero' transition.



**GREEN FINANCE: BANKS ARE (FINALLY) WAKING UP**

Despite the emergence of green products at alternative financial institutions, they are now more or less the rule rather than the exception even at traditional banks, which are pursuing sustainable initiatives wherever possible. The model of collaboration and partnership with new players and fintech startups is often applied here, bringing technology that banks can successfully use and integrate into their existing systems or mobile apps with relative ease.

European & UK green fintech (originating and operating) as at Q1 2022 (N=93 green fintech)



At the same time, the growth of the new green fintech market is driven by customer demand, public opinion, regulations and global initiatives on a voluntary basis, but also by new partner networks and the availability of specific API products from open banking platforms.

„Prema izvještaju *Climate Fintech* koji je uradila kompanija *New Energy Nexusa*, 2020. godine u svijetu je postojalo 250 klimatskih fintech kompanija, uključujući milijarde dolara

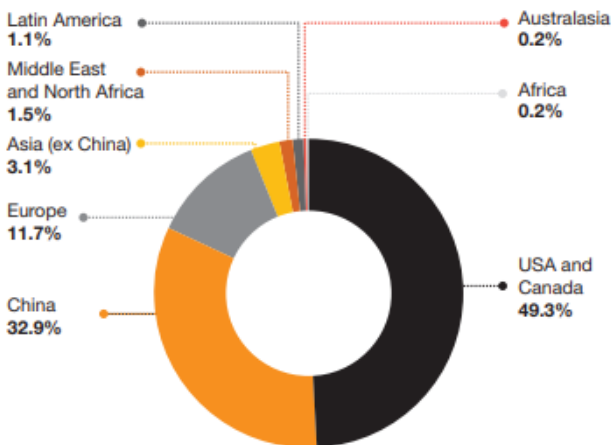
**ZELENI I KLIMATSKI FINTECH: ŠTA JE TO I KAKVU ĆE ULOGU IMATI**

Aktivnosti koje kombinuju okruženje (koje obuhvata klimu), finansije i digitalne tehnologije najčešće se pominju u kontekstu alternativnih aktera, finansijskih tehnoloških start-upova i kompanija. Riječ je o takozvanim zelenim ili klimatskim fintech kompanijama.

Prema izvještaju *Climate Fintech* koji je uradila kompanija *New Energy Nexusa*, 2020. godine u svijetu je postojalo 250 klimatskih fintech kompanija, uključujući milijarde dolara i tehnološke „jednoroge“ (kompanije čija je tržišna vrijednost najmanje milijardu dolara) kao što su Tesla, Beyond Meat i Nest. Danas 8% svih evropskih i britanskih fintech kompanija koje koriste otvorene bankarske API-je već nudi održiv

**Overall breakdown of investment by startup region**

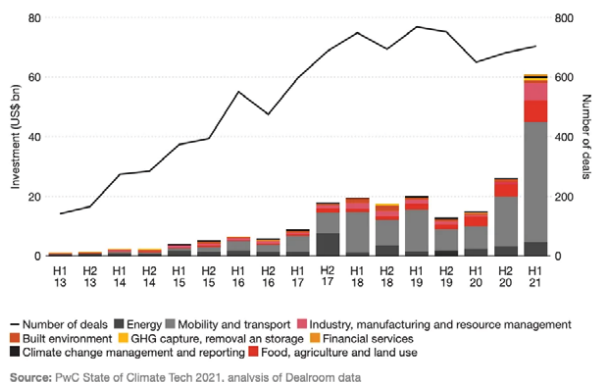
The geographical split shows that nearly half of all venture dollars in climate tech startups, \$29 billion, went to startups in the USA and Canada. China is the second most significant region at \$20 billion. The European market is approximately a third of China's at \$7 billion invested.



Source: PwC analysis on Dealroom data

proizvod, prema PwC-u, tražnja za rješenjima koja klimatski fintech može ponuditi samo će se povećavati u budućnosti jer se sve više kompanija, investitora i vlada obavezuje na tzv. 'neto-nultu' tranziciju.

Investment into climate tech start-ups and number of deals

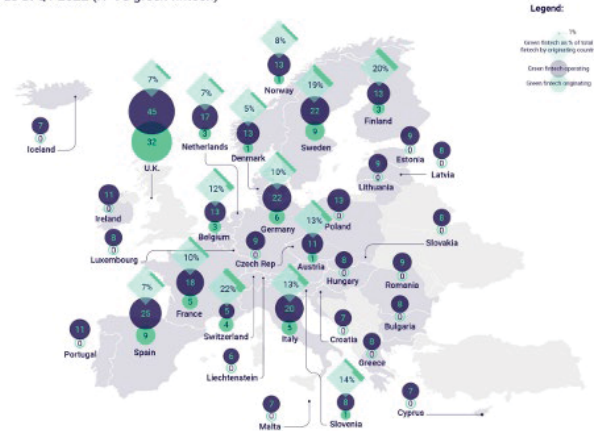


Legend: Number of deals, Energy, Mobility and transport, Industry, manufacturing and resource management, Built environment, GHG capture, removal and storage, Financial services, Climate change management and reporting, Food, agriculture and land use. Source: PwC State of Climate Tech 2021, analysis of Dealroom data

**ZELENE FINANSIJE: BANKE SE (KONAČNO) BUDE**

Uprkos pojavi zelenih proizvoda u alternativnim finansijskim institucijama, oni su sada manje-više pravilo nego izuzetak čak i u tradicionalnim bankama, koje sprovode održive inicijative gdje god je to moguće. Ovdje se često primjenjuje model saradnje i partnerstva s novim akterima i fintech start-upovima, koji donose tehnologiju koju banke mogu uspješno da koriste i integršu u svoje postojeće sisteme ili mobilne aplikacije sa relativnom lakoćom.

European & UK green fintech (originating and operating) as at Q1 2022 (N=93 green fintech)



Istovremeno, rast novog zelenog fintech tržišta podstaknut je tražnjom kupaca, javnim mnjenjem, propisima i globalnim inicijativama na dobrovoljnoj osnovi, ali i novim partnerskim mrežama i dostupnošću specifičnih API proizvoda sa platforme otvorenog bankarstva.

Platformable

Legend: Green fintech as % of total fintech by originating country, Green fintech originating, Green fintech operating

The term ‘green finance’ or ‘green banking’ can be seen as a range of initiatives that in most cases combine digital and sustainable, from the straightforward (payment cards made from recycled plastic or sustainably harvested wood, credit cards that plant trees, etc.) to the more complex (tracking the carbon footprint of individual transactions, offering investments in exclusively sustainable funds, preferential financing for green projects, etc.).

is therefore significant for payments. Typical examples of payment initiatives include the possibility of carbon offsets, the choice of eco-friendly packaging for online purchases, or rounding up the purchase amount and using the difference to plant trees.

Examples include the Dutch Adyen which allows customers to donate money to environmental restoration projects, or Sweden's Svalna and its carbon footprint calculator (more on carbon footprint below).

**CURRENT TRENDS IN GREEN BANKING**

Green initiatives can be found across all sections of the financial industry. According to the Green Digital Finance Alliance, there are a total of 8 product categories within green fintech. Let's take a look at some of these in a little more detail.

**PAYMENTS**

Payments are key mainly because the overall volume of consumer transactions is huge and purchasing behaviour is closely linked to carbon footprint. The potential to bring about change towards sustainability

**BANKING**

The entry of so-called challenger (or neo) banks into retail banking has brought a number of positive changes, and the new players have attracted mainly younger generations interested in the environment of their services and overall approach to banking. Green retail banking in particular is one of the most straightforward ways for people to understand the environmental impact of their (purchasing) decisions.

Initiatives include tracking the carbon footprint of individual purchases, automatic offsetting of purchased goods, credit cards made from recycled or



Termin „zeleno finansiranje” ili „zeleno bankarstvo” može se posmatrati kao niz inicijativa koje u većini slučajeva kombinuju digitalno i održivo, od jednostavnijih (platne kartice napravljene od reciklirane plastike ili održivo posječenog drveta, kreditne kartice koje sade drveće, itd.) do složenijih (praćenje karbonskog otiska pojedinačnih transakcija, ponuda ulaganja u isključivo održiva sredstva, povlašćeno finansiranje zelenih projekata, itd.).

je stoga značajan za plaćanja. Tipični primjeri inicijativa plaćanja uključuju mogućnost smanjenja emisije ugljenika, izbor ekološki prihvatljivog pakovanja za onlajn kupovinu ili zaokruživanje iznosa kupovine i korišćenje razlike za sadnju drveća.

Primjeri uključuju holandski Adyen koji omogućava klijentima da doniraju novac projektima obnove životne sredine, ili švedski Svalna i njegov kalkulator karbonskog otiska (više o karbonskom otisku u nastavku).

**TREKUTNI TRENDVI U ZELENOM BANKARSTVU**

Zelene inicijative se mogu naći u svim sektorima finansijske industrije. Green Digital Finance Alliance smatra da postoji ukupno 8 kategorija proizvoda unutar zelenog fintech-a. Pogledajmo neke od njih malo detaljnije.

**PLAĆANJA**

Plaćanja su ključna uglavnom zato što je ukupni obim potrošačkih transakcija ogroman, a ponašanje pri kupovini usko je povezano sa karbonskim otiskom. Potencijal da se dođe do promjene u pravcu održivosti

**BANKARSTVO**

Ulazak tzv. Banaka „izazivača“ (ili neo banaka) u bankarstvo sa stanovništvom donio je niz pozitivnih promjena, a novi igrači su privukli uglavnom mlađe generacije zainteresovane za životnu sredinu svojih usluga i cjelokupni pristup bankarstvu. Zeleno bankarstvo sa stanovništvom posebno je jedan od najjednostavnijih načina na koji ljudi mogu razumjeti uticaj svojih odluka (kupovine) na životnu sredinu.

Inicijative uključuju praćenje karbonskog otiska pojedinačnih kupovina, automatsku kompenzaciju kupljene robe, kreditne kartice napravljene od



*„We're equipped with powerful tools like the aforementioned TapiX API, seamlessly enriching Dateio data, and fostering a culture of sustainable commerce*

sustainable materials, and credit cards for which the issuing institution contributes to reforestation.

American Aspiration offers financial products for individuals and businesses with a focus on charity, sustainability and the environment. The focus of London-based Envaluate is then squarely on consumers, whom the startup "enables to log into their bank, track their carbon footprint and lead a greener life".

Commercial banking also works with tools such as sustainable project finance or green bonds.

#### **LOANS AND INVESTMENTS (INCLUDING PENSIONS)**

These two areas have also seen a number of positive changes in recent years thanks to fintech, and the use of the latest technologies has brought speed, transparency and previously hard-to-imagine options such as P2P lending or micro-investments.

Initiatives to reduce climate change and environmental impact include lending for green projects (including green mortgages) or investing in so-called ESG (Environmental, Social and Governance) assets, which Barclays expects to be worth over \$53 trillion by 2025. KBC, for example, offers bicycle retailers the possibility to provide credit financing to their customers at the point of sale and Spain's Micappital Eco offers sustainable investments. A form of investment with a significant impact on global warming is pensions, which is the focus of, for example, the UK's PensionBee with its environmentally friendly pension funds, or Tumelo which allows clients to see what funds their money is invested in and have a say in sustainability decisions.

#### **INSURANCE**

Insurance companies are the world's largest asset managers after pension funds and so their role in

efforts to reduce climate change and environmental impacts is crucial. On the other hand, they are themselves highly vulnerable to climate change (including through increasing claims from natural disasters), which positively affects their motivation.

Green initiatives by insurers include, for example, discounted rates for low-emission or electric vehicles, eco-friendly appliances, insurance for ridesharing clients and others. Switzerland's Swiss Re has committed to end insuring and investing in 10% of the world's largest oil and gas producers by the end of 2023, and Allianz has launched its Climate Transition Fund to support the low carbon economy.

#### **CRYPTOCURRENCIES AND BLOCKCHAIN**

Despite the huge energy intensity of the cryptocurrency extraction process, blockchain technology is considered key (by some even the most relevant of all) for both climate fintech in general and carbon footprint tracking and has been applied to a range of green initiatives by financial institutions - from smart energy distribution to green bond issuance. SolarCoin can be spent and traded like other cryptocurrencies, but the essential difference is that it rewards the use of solar technology (1 megawatt hour = 1 SolarCoin).

Carbon footprint tracking is a trend, but carbon offset is a potential problem

According to Platformable, 90% of European and UK green fintech solutions are focused on limiting climate change, and it seems as if those who are not trying to neutralise their carbon footprint today do not even exist.

Clients want to know what effect their purchases are having on the environment, so they are turning to sustainable brands and fair trade products in preference to mass production. Information is needed to reduce the carbon footprint, and people demand it from their financial institutions.

However, calculating the carbon footprint is not easy. It is now overwhelmingly determined by the so-called MCC code, a four-digit number for each transaction processed by Visa or Mastercard that

## „Opremljeni smo moćnim alatima kao što je TapiX API, koji neprimjetno obogaćuje Dateio podatke i njeguje kulturu održive trgovine

recikliranih ili održivih materijala i kreditne kartice za koje institucija koja ih je izdala doprinosi ponovnom pošumljavanju.

Američki Aspiration nudi finansijske proizvode za pojedince i preduzeća sa fokusom na dobrotvorne svrhe, održivost i životnu sredinu. Fokus Envaluate sa sjedištem u Londonu je direktno na potrošače, kojima start-up „omogućava da se prijave u svoju banku, prate njihov karbonski otisak i vode zeleniji život“.

Komercijalno bankarstvo takođe koristi alate kao što su održivo projektno finansiranje ili zelene obveznice.

### KREDITI I INVESTICIJE (UKLJUČUJUĆI PENZIJE)

Ove dvije oblasti takođe su doživjele niz pozitivnih promjena u posljednjih nekoliko godina zahvaljujući fintech-u, a korišćenje najnovijih tehnologija donijelo je brzinu, transparentnost i ranije teško zamislive opcije poput P2P pozajmljivanja ili mikro ulaganja.

Inicijative za smanjenje klimatskih promjena i uticaja na životnu sredinu uključuju kreditiranje zelenih projekata (uključujući zelene hipoteke) ili ulaganje u tzv. ESG imovinu, za koju Barclays očekuje da će vrijediti preko 53 triliona dolara do 2025. KBC, na primjer, nudi prodavcima bicikala mogućnost da svojim kupcima osiguraju kreditno finansiranje na prodajnom mjestu, a španski Micappital Eco nudi održiva ulaganja. Oblik ulaganja sa značajnim uticajem na globalno zagrijavanje jesu penzije, koje su u fokusu, na primer, britanske PensionBee sa svojim ekološki prihvatljivim penzionim fondovima, ili Tumelo što omogućava klijentima da vide u koje fondove je njihov novac uložen i da imaju pravo glasa u odlukama o održivosti.

### OSIGURANJE

Osiguravajuća društva su najveći svjetski menadžeri imovine poslije penzionih fondova i stoga je njihova

uloga u naporima za smanjenje klimatskih promjena i uticaja na životnu sredinu ključna. S druge strane, i sami su vrlo ranjivi na klimatske promjene (uključujući i povećanje zahtjeva od prirodnih katastrofa), što pozitivno utiče na njihovu motivaciju.

Zelene inicijative osiguravača uključuju, na primjer, snižene stope za vozila sa niskim emisijama ili električna vozila, ekološki prihvatljive uređaje, osiguranje za klijente koji dijele vožnju i drugo. Švajcarska Swiss Re obavezala se da će okončati osiguranje i ulaganje u 10% najvećih svjetskih proizvođača nafte i plina do kraja 2023. godine, a Allianz je pokrenuo Fond za klimatsku tranziciju da podrži ekonomiju sa niskom emisijom ugljen-dioksida.

### KRIPTOVALUTE I BLOCKCHAIN

Uprkos velikom energetsom intenzitetu procesa ekstrakcije kriptovalute, blockchain tehnologija se smatra ključnom (od nekih čak i najrelevantniji od svih) kako za klimatske fintech uopšteno i tako i praćenje karbonskog otiska, i primijenjen je na niz zelenih inicijativa finansijskih institucija - od pametne distribucije energije do izdavanja zelenih obveznica. SolarCoin može se trošiti i njime se može trgovati kao i sa drugim kriptovalutama, ali suštinska razlika je u tome što nagrađuje korišćenje solarne tehnologije (1 megavat sat = 1 SolarCoin).

Praćenje karbonskog otiska je trend, ali nadoknada ugljen-dioksida predstavlja potencijalni problem

Prema Platformable, 90% evropskih i britanskih zelenih fintech rješenja usmjereno je na ograničavanje klimatskih promjena, a čini se kao da oni koji danas ne pokušavaju da neutrališu svoj karbonski otisak i ne postoje.

Klijenti žele da znaju kakav uticaj njihove kupovine imaju na životnu sredinu, pa se okreću održivim brendovima i proizvodima fer trgovine radije nego masovnoj proizvodnji. Informacije su potrebne za smanjenje karbonskog otiska, a ljudi ih zahtijevaju od svojih finansijskih institucija.

Međutim, izračunavanje karbonskog otiska nije lako. Sada je u velikoj mjeri određen tzv MCC kod,



classifies businesses based on the type of goods or services they sell.

The MCC codes are used in many cloud-based services by global bank companies and their platforms, such as the Aland Index in the Mastercard Carbon Calculator solution, which was developed in cooperation with the Swedish fintech Doconomy, or Visa's Fintech Partner Connect programme. Most of those use real-time payment data and calculate the carbon footprint of individual clients based on the Open Sustainability Registry, which takes into account local impacts on the overall carbon footprint. It gives the clients a user-friendly view of how their purchasing behaviour affects the environment, as well as tips for a more sustainable lifestyle. Some companies use a more global view and translate the data into more illustrative examples, such as the number of trees needed to absorb an equivalent amount of CO<sub>2</sub>.

According to Platformable, 17% of all green fintech products and services focus exclusively on carbon offset, i.e. not addressing the causes but only "cleaning up afterwards". While some of the projects make a lot of sense (an example is the Stripe Climate initiative, which allows businesses to donate a portion of their profits to carbon removal projects), others - such as reforestation - are more controversial and their real positive impact on the environment (and biodiversity) is unclear.

Eco Track is an API-based data enrichment service from TapiX that goes deeper, all the way to the merchant level. Why is it important? Avoiding data inconsistencies by using localization and different levels of categorization means bank platforms can leverage the information much more efficiently. They can offer the clients much-needed context for all their purchases and financial literacy beyond simple data. Eco Track helps clients learn through their banking app and guides them to sustainability by helping them understand the environmental impact of their individual purchases through education, explanation and motivation.

### **A CARBON FOOTPRINT WITHOUT DATA? INFORMATION IS POWER**

Climate change and mitigation initiatives have significantly increased the demand for new and more

accurate data sources in the last few years. Data is a key enabler for global change towards reducing climate change and the environmental impacts of human activity.

While an overall figure on the carbon footprint of individual clients or portfolios is interesting, it is not nearly as useful as it could be without additional data. In order to take a specific action (for example, to reduce or avoid purchases of goods and services with a high carbon footprint), it is necessary to know which of the transactions contributed to the emissions and how much. However, the predictive power of the above-mentioned MCC codes, which are most commonly used to determine carbon footprints, is limited. The 2023 TapiX case study, for example, showed that up to 63% of transactions categorised on the basis of MCC codes are erroneous.

But banks can now offer their customers enriched payment data that is more accurate and reliable than that based on MCC codes while being easily integrated into mobile apps via APIs. One such solution is the TapiX API from Czech fintech Dateio. In its key markets (across Europe, but also in the Middle East), TapiX covers over 95% of all transactions, where it can display the exact name, logo and GPS location of the merchant, purchase category, URL address or eco-tags in addition to the amount. Together with the Eco Track solution, these replace MCC code-based carbon footprint tracking and allow institutions to reward clients for generally "good" spending, such as packaging-free purchases or ride-sharing.

### **DEVELOPMENT IS MOVING FORWARD: WHERE WILL THE GREEN WAVE TAKE US?**

According to Platformable, the development towards sustainability in banking is going in a good direction, but further improvements are needed, especially in terms of product vision and defining business models.

In order to play its role successfully in reducing climate change and environmental impacts, the financial sector will need to innovate in several areas, according to Maddyness.

Shifting investment away from oil and gas to renewable energy, tools for tracking emissions, and behavioural change at the corporate and consumer level,

četvorocifreni broj za svaku transakciju koju obrađuje Visa ili Mastercard, a koja klasifikuje preduzeća na osnovu vrste robe ili usluga koje prodaju.

MCC kodove koriste u mnogim uslugama zasnovanim na oblaku od strane globalnih bankarskih kompanija i njihovih platformi, kao što je Aland Index u rješenju Mastercard Carbon Calculator, koje je razvijeno u saradnji sa švedskom fintech Doconomy, ili Visa Fintech Partner Connect programom. Većina njih koristi podatke o plaćanju u realnom vremenu i izračunava karbonski otisak pojedinačnih klijenata na osnovu Otvorenog registra održivosti, koji uzima u obzir lokalne uticaje na ukupni karbonski otisak. Klijentima pruža jednostavan pogled na to kako njihovo ponašanje prilikom kupovine utiče na životnu sredinu, kao i daje savjete za održiviji način života. Neke kompanije koriste globalniji pogled i prevode podatke u ilustrativnije primjere, kao što je broj stabala potrebnih za apsorpciju ekvivalentne količine CO<sub>2</sub>.

Prema Platformable, 17% svih zelenih fintech proizvoda i usluga fokusira se isključivo na nadoknadu ugljena, tj. ne rješavanje uzroka već samo "čišćenje nakon toga". Dok neki od projekata imaju puno smisla (primjer je Stripe Climate inicijativa, koja omogućava preduzećima da doniraju dio svog profita projektima uklanjanja ugljen-dioksida), drugi - kao što je pošumljavanje - su kontroverzniji i njihov stvarni pozitivan uticaj na životnu sredinu (i biodiverzitet) je nejasan.

Eco Track je TapiX-ova usluga obogaćivanja podataka zasnovana na API-ju koja ide dublje, sve do nivoa trgovca. Zašto je to važno? Izbjegavanje nedosljednosti podataka korišćenjem lokalizacije i različitih nivoa kategorizacije znači da bankarske platforme mogu mnogo efikasnije da iskoriste informacije. One mogu da ponude klijentima prijeko potreban kontekst za sve njihove kupovine i finansijsku pismenost izvan jednostavnih podataka. Eco Track pomaže klijentima da uče kroz njihovu bankarsku aplikaciju i vodi ih ka održivosti pomažući im da shvate uticaj njihovih pojedinačnih kupovina na životnu sredinu kroz edukaciju, objašnjenje i motivaciju.

### **KARBONSKI OTISAK BEZ PODATAKA? INFORMACIJA JE MOĆ**

Klimatske promjene i inicijative za ublažavanje značajno su povećale potražnju za novim i preciznijim

izvorima podataka u posljednjih nekoliko godina. Podaci su ključni pokretač globalnih promjena u pravcu smanjenja klimatskih promjena i uticaja ljudskih aktivnosti na životnu sredinu.

Iako je ukupna brojka o karbonskom otisku pojedinačnih klijenata ili portfolija zanimljiva, nije ni približno toliko korisna koliko bi mogla biti bez dodatnih podataka. Da bi se poduzela određena radnja (na primjer, smanjila ili izbjegla kupovina roba i usluga sa visokim karbonskim otiskom), potrebno je znati koja je od transakcija doprinijela emisiji i koliko. Međutim, prediktivna moć gore navedenih MCC kodova, koji se najčešće koriste za određivanje karbonskog otiska, je ograničena. TapiX studija slučaja iz 2023. godine, na primjer, pokazalo je da je do 63% transakcija kategorizovanih na osnovu MCC kodova pogrešno.

Ali banke sada mogu da ponude svojim klijentima obogaćene podatke o plaćanju koji su precizniji i pouzdaniji od onih koji se zasnivaju na MCC kodovima, dok se lako integrišu u mobilne aplikacije putem API-ja. Jedno od takvih rješenja je TapiX API iz češke fintech Dateio. Na svojim ključnim tržištima (široj Evropi, ali i na Bliskom istoku), TapiX pokriva preko 95% svih transakcija, gdje može prikazati tačan naziv, logo i GPS lokaciju trgovca, kategoriju kupovine, URL adresu ili eko-oznake pored iznosa. Zajedno sa Eco Track rješenjem, oni zamjenjuju praćenje karbonskog otiska bazirano na MCC kodu i omogućavaju institucijama da nagrađuju klijente za uopšteno „dobru“ potrošnju, kao što su kupovine bez pakovanja ili dijeljenje vožnje.

### **RAZVOJ IDE NAPRIJED: KUDA ĆE NAS ODVESTI ZELEN TALAS?**

Prema Platformable, razvoj ka održivosti u bankarstvu ide u dobrom pravcu, ali su potrebna dalja poboljšanja, posebno u pogledu vizije proizvođača i definisanja poslovnih modela.

Kako bi uspješno odigrao svoju ulogu u smanjenju klimatskih promjena i uticaja na životnu sredinu, finansijski sektor će morati da inovira u nekoliko oblasti, prema Maddyness-u.

Prebacivanje ulaganja s nafte i plina na obnovljive izvore energije, alati za praćenje emisija i promjena

financing new energy and transport infrastructure, managing and mitigating climate risks.

The barriers that climate fintech will have to overcome in the coming years were also identified by PwC in its report. These include technology, finance, regulations (regulatory), processes and people (availability of talent and skills).

When it comes to carbon footprinting and tracking, we're steering towards an exciting horizon - one that promises more precision, transparency, and a greener future.

Today, we're seeing a shift as major corporations are taking the reins of their own carbon accountability. They're not just talking the talk; they're walking the walk by meticulously measuring and reporting their carbon footprints. The conventional approach of relying on MCC codes to gauge product or service emissions is becoming a thing of the past. The key to a more accurate and sustainable path is to tap directly into their data.

Our path forward also involves celebrating individual merchants for their eco-conscious actions on a transaction-by-transaction basis. We're equipped with powerful tools like the aforementioned TapiX API, seamlessly enriching Dateio data, and fostering a culture of sustainable commerce. Looking further into the future, that also means a possible carbon footprint tracking of each item in your shopping cart. Picture a world where every purchase choice is a step towards a more sustainable planet with smart data keeping you informed on time.

## Business Models and Applied Technologies

Below are Climate Fintech business models which have been sorted based on their application within the financial system. Additionally, we have color coded these business models per the key on the right side, based on the applied technology or framework which is most commonly used by the business model.



## Business Models and Applied Technologies

Below are Climate Fintech business models which have been sorted based on their application within the financial system. Additionally, we have color coded these business models per the key on the right side, based on the applied technology or framework which is most commonly used by the business model.



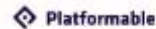
ponašanja na korporativnom i potrošačkom nivou, finansiranje nove energetske i transportne infrastrukture, upravljanje i ublažavanje klimatskih rizika.

Barijere koje će klimatski fintech morati da prevaziđe u narednim godinama takođe je identifikovao PwC u svom izvještaju. To uključuje tehnologiju, finansije, propise (regulatorne), procese i ljude (dostupnost talenta i vještina).

Kada je riječ o karbonskom otisku i praćenju, usmjevamo se prema uzbudljivom horizontu – onom koji obećava više preciznosti, transparentnosti i zeleniju budućnost.

Danas vidimo promjenu jer velike korporacije preuzimaju sopstvenu odgovornost za emisiju ugljen-dioksida. Oni ne samo da pričaju; oni šetaju tako što pomno mjere i prijavljuju svoje karbonske otiske. Konvencionalni pristup oslanjanja na MCC kodove za mjerenje emisija proizvoda ili usluga postaje stvar prošlosti. Ključ tačnijeg i održivijeg puta je da direktno dodirnete njihove podatke.

Naš put naprijed takođe uključuje slavljenje pojedinačnih trgovaca za njihove ekološki osviještene akcije na bazi transakcije po transakciju. Opremljeni smo moćnim alatima kao što je gore spomenuti TapiX API, koji neprimjetno obogaćuje Dateio podatke i njeguje kulturu održive trgovine. Gledajući dalje u budućnost, to takođe znači moguće praćenje karbonskog otiska svakog artikla u vašoj korpi. Zamislite svijet u kojem je svaki izbor kupovine korak ka održivijoj planeti s pametnim podacima koji vas informišu na vrijeme.





**Vaš najbolji izbor  
za brze kredite!**

**Addiko Bank**

# Nova i strožija pravila protiv pranja novca

*„Regulativa po prvi put u cijeloj EU iscrpno usklađuje pravila o sprečavanju pranja novca, zatvarajući rupe u zakonu za prevarante*

Savjet Evropske unije usvojio je paket novih pravila o sprečavanju pranja novca koji će zaštititi građane EU i finansijski sistem EU od pranja novca i finansiranja terorizma.

Nova i stroža pravila će ojačati sisteme u borbi protiv pranja novca i finansiranja terorizma. Nova agencija sa sjedištem u Frankfurtu nadgledaće rad zainteresovanih strana. Time će se obezbijediti da prevaranti, organizovani kriminal i teroristi neće imati prostora za legitimizaciju svojih prihoda kroz finansijski sistem.

Vinsent van Petegem, belgijski ministar finansija : Novim paketom sva pravila koja važe za privatni sektor biće prebačena u novu regulativu koja se direktno primenjuje, dok će se direktiva baviti organizacijom nacionalnih nadležnih organa za borbu protiv pranja novca i finansiranja terorizma (SPN/FT).

Regulativa po prvi put u cijeloj EU iscrpno usklađuje pravila o sprečavanju pranja novca, zatvarajući rupe u zakonu za prevarante.

Ona proširuje pravila o sprečavanju pranja novca na nove obveznike, kao što je većina kripto-sektora, trgovci luksuznom robom i fudbalski klubovi i agenti. Regulativa postavlja,

stvarno vlasništvo i postavlja ograničenje od 10.000 eura za gotovinska plaćanja.

Direktiva će poboljšati organizaciju nacionalnih sistema za borbu protiv pranja novca postavljajući jasna pravila o tome kako zajedno rade finansijsko obavještajne jedinice (FOJ - nacionalna tijela koja prikupljaju informacije o sumnjivim ili neuobičajenim finansijskim aktivnostima u državama članicama) i supervizori.

Paketom se uspostavlja novi Evropski nadležni organ za borbu protiv pranja novca i finansiranja terorizma (AMLA) koji će imati direktna i indirektna nadzorna ovlašćenja nad visokorizičnim obveznicima u finansijskom sektoru.

S obzirom na prekograničnu prirodu finansijskog kriminala, novi nadležni organ će povećati efikasnost okvira za SPN/FT stvaranjem integrisanog mehanizma sa nacionalnim supervizorima kako bi se osiguralo da obveznici ispunjavaju obaveze vezane za SPN/FT u finansijskom sektoru. AMLA će takođe imati pomoćnu ulogu u odnosu na nefinansijski sektor, i koordiniraće i podržavati FOJ.

Pored nadzornih ovlašćenja, a u cilju obezbjeđenja usklađenosti, u

između ostalog, i strožije zahtjeve u pogledu poznavanja i praćenja poslovanja klijenta, reguliše

slučajevima ozbiljnih, sistematskih ili ponovljenih kršenja direktno primjenjivih zahtjeva, novi nadležni organ će izreći novčane kazne odabranim obveznicima.

Nova direktiva o sprečavanju pranja novca takođe propisuje da države članice EU učine dostupnim informacije iz centralizovanih registara bankarskih računa – koji sadrže podatke o tome ko ima koji bankarski račun i gdje – putem jedinstvene tačke pristupa. S obzirom da će Direktiva o sprečavanju pranja novca omogućiti pristup jedinstvenoj tački pristupa samo za FOJ, Savjet je usvojio i posebnu direktivu kako bi se osiguralo da nacionalni organi za sprovođenje zakona imaju pristup ovim registrima putem jedinstvene tačke pristupa. Ova direktiva takođe uključuje usaglašavanje obrazaca izvoda iz banaka. Takav direktan pristup i korišćenje usaglašenih obrazaca od strane banaka je važan instrument u borbi protiv krivičnih djela i nastojanju da se uđe u trag i oduzme imovinska korist stečena kriminalom.

Odluka je objavljena u Službenom listu a Regulativa o sprečavanju pranja novca će početi da se primjenjuje tri godine nakon stupanja na snagu. Države članice imaju dvije godine da transponuju neke djelove direktive o sprečavanju pranja novca i tri godine za druge.

AMLA će imati sjedište u Frankfurtu i početi s radom sredinom 2025. godine.

# New and stricter anti-money laundering rules

*„The regulation exhaustively harmonises anti-money laundering rules for the first time throughout the EU, closing loopholes for fraudsters*

The Council today adopted a package of new anti-money-laundering rules that will protect EU citizens and the EU's financial system against money laundering and the financing of terrorism.

The new and stricter rules will strengthen our systems in the fight against money laundering and terrorist financing. A new agency based in Frankfurt will supervise the work of actors involved. This will ensure that fraudsters, organised crime and terrorists will have no space left for legitimising their proceeds through the financial system.

Vincent Van Peteghem, Belgian minister for finance: With the new package, all rules applying to the private sector will be transferred to a new directly applicable regulation, while a directive will deal with the organisation of national competent authorities fighting against money laundering and countering the financing of terrorism (AML/CFT).

The regulation exhaustively harmonises anti-money laundering rules for the first time throughout the EU, closing loopholes for fraudsters.

It extends the anti-money laundering rules to new obliged entities, such as most of the crypto-sector, traders of luxury goods and football clubs and agents. The regulation also sets tighter due diligence requirements, regulates beneficial ownership and sets a limit of € 10.000 to cash payments, among other things.

The directive will improve the organisation of national anti-money laundering systems setting out clear rules on how financial intelligence units (FIUs - the national bodies which collect information on suspicious or unusual financial activity in member states) and supervisors work together.

The package sets up a new European Authority for Anti-Money Laundering and Countering the Financing of Terrorism (AMLA) that will have direct and indirect supervisory powers over high-risk obliged entities in the financial sector.

Given the cross-border nature of financial crime, the new authority will boost the efficiency of the AML/CFT framework by creating an integrated mechanism with national supervisors to ensure obliged entities comply with AML/CFT-related obligations in the financial sector. AMLA will also have a supporting role with respect

to the non-financial sector, and coordinate and support FIUs.

In addition to supervisory powers and in order to ensure compliance, in cases of serious, systematic or repeated breaches of directly applicable requirements, the Authority will impose pecuniary sanctions on the selected obliged entities.

The new anti-money laundering directive also prescribes that EU member states make information from centralised bank account registers – containing data on who has which bank account and where – available through a single access point. As the AML directive will provide access to the single access point only to FIUs, the Council today adopted a separate directive to ensure that the national law enforcement authorities will have access to these registers via the single access point. This directive also includes the harmonisation of bank statement format. Such direct access and use of harmonised formats by the banks is an important instrument in fighting criminal offences and in efforts to trace and confiscate the proceeds of crime.

The decision is published in the EU's Official Journal and the AML regulation will apply three years after the entry into force. Member States will have two years to transpose some parts of the AML directive and three years for others.

AMLA will be based in Frankfurt and start operations in mid-2025.

# Uključenje vještačke inteligencije u bankarstvo

*„Uvođenje vještačke inteligencije na radnom mestu nosi i rizike i prilike za zaposlene u bankama. Socijalni dijalog na svim nivoima je od vitalnog značaja kako bi se osiguralo da se sistemi AI implementiraju odgovorno*

U Briselu se 14. maja 90 socijalnih partnera sa evropskog i nacionalnog nivoa sektora okupilo kako bi svjedočilo kako su evropski socijalni partneri za bankarski sektor potpisali Zajedničku deklaraciju o aspektima angažovanja vještačke inteligencije (AI). Ova deklaracija je početak tekućeg procesa o AI, a ujedno i kulminacija opsežne saradnje i dijaloga među zainteresovanim stranama, uzimajući u obzir dinamične izazove i mogućnosti sektora u uvođenju procesa i sistema koji koriste AI.

„Uvođenje vještačke inteligencije na radnom mestu nosi i rizike i prilike za zaposlene u bankama. Socijalni dijalog na svim nivoima je od vitalnog značaja kako bi se osiguralo da se sistemi AI implementiraju odgovorno. Potvrđujemo predanost koju su danas preuzeli socijalni partneri Evropske banke prema socijalnom dijalogu, uključujući kolektivno pregovaranje, na svim nivoima”, kazao je Majkl Budolfsen, predsjednik UNI Europa Finance.

Ova deklaracija se zasniva na bogatoj istoriji zajedničkih deklaracija koje su potpisali evropski socijalni partneri u proteklih pet godina, kao što su Zajednička deklaracija o radu na daljinu u evropskom bankarskom sektoru (2017.), Zajednička deklaracija o uticaju digitalizacije na zapošljavanje (2018. ), i Zajednička deklaracija o radu na daljinu i novim tehnologijama (2021.).

Štaviše, ova deklaracija izvlači uvid iz dvogodišnjeg projekta socijalnog partnera koji finansira Evropska komisija, „Bankarstvo u 2030.: Kako će trenutni globalni trendovi, a posebno vještačka inteligencija (AI) oblikovati budućnost evropske bankarske industrije i njenih zaposlenih?“

Potpisivanje se dogodilo oko završne konferencije projekta 'Bankarstvo u 2030.', na kojoj su obavljena desk istraživanja i sektorski intervjui iz cijele EU koje je proveo Arix Business Intelligence GmbH i tri evropske radionice u Parizu, Štokholmu i Zagrebu na kojima su prisustvovali lokalni socijalni partneri.

„Ova zajednička deklaracija označava važan trenutak u našem tekućem dijalogu i saradnji sa našim sindikalnim kolegama u bankarskom sektoru. Baveći se aspektima zapošljavanja/angažovanja vještačke inteligencije, postavljamo temelje za budućnost koja daje prioritet i inovacijama i našoj radnoj snazi”, kazao je Jens Tau, predsjedavajući EBF-ovog bankarskog odbora za evropska socijalna pitanja.

Uspon AI predstavlja izazove i prilike, kao što je istaknuto u nalazima projekta „Bankarstvo u 2030.“. Ubrzana digitalizacija, praćena pandemijom COVID-19, podstakla je usvajanje AI u bankarskom sektoru, preoblikujući interakcije sa klijentima i operativne paradigme za svoje zaposlene. Prepoznajući transformativni potencijal AI, Evropski socijalni partneri naglašavaju važnost proaktivnog zajedničkog angažmana i odgovorne upotrebe ove tehnologije.

„Finansijski sektor je preuzeo vodeću ulogu u osiguravanju da radnici mogu uticati na AI na radnom mjestu. Ove obaveze će biti koristan alat za UNI Europa Finance i





# Employment Aspects of Artificial Intelligence

*„Introducing AI in the workplace comes with both risks and opportunities to bank employees. Social dialogue at all levels is vital to ensure that AI systems are implemented responsibly*

On 14 May 2024, 90 social partners from the European and national sectoral level gathered in Brussels to witness the European Social Partners for the banking sector sign a Joint Declaration on Employment Aspects of Artificial Intelligence. This declaration is the beginning of an ongoing process on AI, and also the culmination of extensive collaboration and dialogue among the stakeholders, taking into account the sector's dynamic challenges and opportunities in introducing processes and systems which use AI.

“Introducing AI in the workplace comes with both risks and opportunities to bank employees. Social dialogue at all levels is vital to ensure that AI systems are implemented responsibly. We acknowledge the commitment made today by the European Bank Social Partners towards social dialogue, including collective bargaining, at all levels.” – Michael Budolfson, UNI Europa Finance President.

This declaration builds upon the rich history of joint declarations signed by the European Social Partners over the past five years, such as the Joint Declaration on Telework in the European Banking Sector (2017), the Joint Declaration on the Impact of Digitalisation on Employment (2018), and the Joint Declaration on Remote Work and New Technologies (2021).

Moreover, it draws insights from the two-year European Commission-funded social partner project, ‘Banking in 2030: How will the current global

trends and especially Artificial Intelligence (AI) shape the future of the European banking industry and its employees?’

The signing took place around the final conference of the ‘Banking in 2030’ project, which saw desk research and sector interviews from across the EU carried out by Arix Business Intelligence GmbH and three European workshops in Paris, Stockholm and Zagreb with local social partners in attendance.

“This Joint Declaration marks an important moment in our ongoing dialogue and collaboration with our trade union counterparts in the banking sector. By addressing the employment aspects of Artificial Intelligence, we are laying the groundwork for a future that prioritises both innovation and our workforce.” – Jens Thau, Chairman of the EBF's Banking Committee on European Social Affairs.

The rise of AI presents both challenges and opportunities, as highlighted by the findings of the ‘Banking in 2030’ project. Accelerated digitalisation, compounded by the COVID-19 pandemic, has propelled the adoption of AI in the banking sector, reshaping customer interactions and operational paradigms for its employees. Recognising the transformative potential of AI, the European Social Partners underscore the importance of a proactive joint engagement and responsible use of this technology.

“The finance sector has taken the lead on ensuring workers can influence AI in the workplace. These commitments will be a useful tool for UNI Europa Finance and our affiliated unions to negotiate collective agreements on AI in the workplace.” – Maureen Hick, UNI Europa Finance Director.

Key highlights of the Joint Declaration include:

**Definition of Artificial Intelligence:** Providing a comprehensive understanding, in line with the EU definition in the AI Act, of AI and its principal features, emphasising the importance of transparency and human oversight in its deployment.

naše povezane sindikate da pregovaraju o kolektivnim ugovorima o AI na radnom mjestu”, kazala je Morin Hik, direktorka finansija UNI Europa.

Glavne tačke Zajedničke deklaracije uključuju: Definiciju vještačke inteligencije: Pružanje sveobuhvatnog razumijevanja, u skladu sa definicijom EU u Zakonu o vještačkoj inteligenciji, AI i njenih glavnih karakteristika, naglašavajući važnost transparentnosti i ljudskog nadzora u njenoj primjeni.

Socijalni dijalog: Socijalni dijalog na svim nivoima, uključujući kolektivno pregovaranje, predstavlja djelotvoran i pozitivan alat za rješavanje uticaja novih tehnologija i digitalizacije na radnom mjestu. Evropski socijalni partneri se obavezuju da će nastaviti praćenje i analizu povezanih efekata, takođe u pogledu raznovrsne evolucije modela organizacije rada.

Trenutni status i odgovorna upotreba: Priznajući sve veću rasprostranjenost AI u bankarskom sektoru i zalaganje za odgovoran, transparentan i nepristrasan pristup njenoj primjeni, posebno u funkcijama vezanim za ljudske resurse.

Zdravlje i sigurnost: Što se tiče upotrebe AI sistema, Evropski socijalni partneri preporučuju redovno obavljanje zajedničkih procjena rizika bezbjednosti i



zdravlja na radu (OSH) koje uključuju efekte algoritamskog upravljanja.

Obuka i razvoj digitalnih kompetencija: Ističući potrebu kontinuiranog usavršavanja i prekvalifikacije kako bi se prilagodili digitalnom okruženju koje se razvija i premostio digitalni jaz kako bi radna snaga bila sposobna za budućnost.

Evropski socijalni partneri snažno ohrabruju Evropsku komisiju i nacionalne vlade da finansiraju takve obuke. „Ljudska kontrola je vitalna funkcija u AI procesima i sistemima, a ova funkcija će imati koristi od usavršavanja i prekvalifikacije kako se tehnologija razvija. Započeli smo ovaj projekat prije nego što su kreirani programi kao što je ChatGPT i oni su već rasprostranjeni”, kazao je Majkl Kamas, potpredsjednik EBF BCESA i generalni direktor Udruženja kiparskih banaka.

Digitalna prava: Evropski socijalni partneri smatraju da sve veća upotreba AI čini neophodnim održavanje niza individualnih i kolektivnih digitalnih prava u skladu sa važećim zakonom i kolektivnim ugovorima.

Praćenje i evaluacija: Posvećenost stalnom praćenju i evaluaciji implementacije Zajedničke deklaracije na nacionalnom, sektorskom i nivou preduzeća, sa fokusom na socijalni dijalog, kolektivno pregovaranje i razmjenu najboljih praksi.

„Dok se krećemo kroz složenost integracije AI u bankarskom sektoru, imperativ je da damo prioritet pravičnosti, transparentnosti i pristupima usmjerenim na čovjeka. Ova zajednička deklaracija naglašava našu zajedničku posvećenost unapređenju tehnoloških inovacija uz nastavak socijalnog dijaloga o pravima radnika”, naveo je Sebastijan de Brauer, zamjenik izvršnog direktora, Evropska bankarska federacija.

„Ova zajednička deklaracija je prva koja uspostavlja međusobno dogovorene standarde o AI koji postavljaju jasne granice i zaštitu za radnike širom evropskog bankarskog sektora. Izjava je dobar početak i sada moramo uložiti zajednički napor kako bismo osigurali široku primjenu”, rekla je Elke Maes potpredsjednica UNI Europa Finance.

Evropski socijalni partneri će izvršiti potpunu evaluaciju ove Zajedničke deklaracije pred kraj svog radnog programa za 2025-2026.

Evropski socijalni partneri žele da se zahvale svojim nacionalnim predstavnicima u Parizu, Štokholmu i Zagrebu na podršci na terenu za tri evropske radionice i konsultantskoj kući Arix Business Intelligence GmbH na njihovoj kontinuiranoj podršci u izradi izveštaja o njihovim nalazima.

Na kraju, evropski socijalni partneri ponovo potvrđuju svoju posvećenost podsticanju kolaborativnog i inkluzivnog pristupa ka iskorišćavanju potencijala vještačke inteligencije uz istovremeno čuvanje interesa svih zainteresovanih strana u evropskom bankarskom sektoru.

*„Baveći se aspektima zapošljavanja/angažovanja vještačke inteligencije, postavljamo temelje za budućnost koja daje prioritet i inovacijama i našoj radnoj snazi*

**Social Dialogue:** Social dialogue at all levels, including collective bargaining, represents an effective and positive tool for addressing the impact of new technologies and digitalisation in the workplace. The European Social Partners undertake to continue the monitoring and analysis of the related effects, also regarding the diversified evolution of work organisational models.

**Current Status and Responsible Use:** Acknowledging the increasing prevalence of AI in the banking sector and advocating for a responsible, transparent, and unbiased approach to its deployment, particularly in human resources-related functions.

**Health and Safety:** Regarding the use of AI systems, the European Social Partners recommend regularly performing joint Occupational Safety and Health (OSH) risk assessments that include the effects of algorithmic management.

**Training and Digital Competence Development:** Highlighting the necessity of continuous upskilling and reskilling to adapt to the evolving digital landscape and bridge the digital divide to have a workforce fit for the future. The European Social Partners strongly encourage the European Commission and national governments to fund such trainings. “The human-in-control is a vital function in AI processes and systems, and this function will benefit from upskilling and reskilling as the technology develops. We started this project before programmes such as ChatGPT were created and already they are widespread.” – Michael Kammas, Vice-Chairman of EBF BCESA and Director General of the Association of Cyprus Banks.

**Digital Rights:** The European Social Partners consider that the increasing use of AI makes it necessary to maintain a series of individual and collective digital rights in accordance with applicable law and collective bargaining agreements.

*„By addressing the employment aspects of Artificial Intelligence, we are laying the groundwork for a future that prioritises both innovation and our workforce*



**Monitoring and Evaluation:** Committing to ongoing monitoring and evaluation of the Joint Declaration’s implementation at the national, sectoral and company level, with a focus on social dialogue, collective bargaining and sharing best practices.

“As we navigate the complexities of AI integration in the banking sector, it is imperative that we prioritise fairness, transparency, and human-centred approaches. This Joint Declaration underscores our collective commitment to advancing technological innovation while continuing the social dialogue on workers’ rights.” – Sébastien de Brouwer, Deputy CEO, European Banking Federation.

“This Joint Declaration is the first to establish mutually-agreed standards on AI that set clear boundaries and protections for workers across the European banking sector. The statement is a good start and now we need to make a joint effort to ensure it is implemented widely.” – Elke Maes UNI Europa Finance Vice President

The European Social Partners will undertake a full evaluation of this Joint Declaration towards the end of their 2025-2026 Work Programme.

The European Social partners would like to thank their national representatives in Paris, Stockholm, and Zagreb for on-the-ground support for the three European workshops and consultancy Arix Business Intelligence GmbH for their continuous support in developing a report on their findings.

In closing, the European Social Partners reaffirm their commitment to fostering a collaborative and inclusive approach towards harnessing the potential of AI while safeguarding the interests of all stakeholders in the European banking sector.

# O bankama, komentarima i upitnosti novih propisa

Tekst sadrži stavove generalnog sekretara Udruženja banaka Crne Gore Bratislava Pejakovića na komentare analitičara u crnogorskim medijima o bankarskom sektoru, o osnivanju banke za razvoj, ali i o novom predlogu Vlade u vezi potrošačkih kredita

## Kakvo je stanje u bankarskom sistemu Crne Gore?

Svi bankarski pokazatelji su na vrlo visokom, kvalitetnom nivou, a odnose se na solventnost, kvalitetnu kapitalnu osnovu, likvidnost i rentabilnost, uz poštovanje međunarodnih standarda poslovanja za banke koje prati CBCG, što naravno proizvodi i kvalitetnu dobit u poslovanju banaka. Prethodni podaci trebaju da raduju sve. Državu, jer su sve banke na bijeloj listi i kvalitetno pune budžet za funkcionisanje države i naravno klijente, jer banke raspolažu znanjem, resursima i sredstvima da podrže rast kroz kvalitetne projekte kako malih i srednjih preduzeća tako i infrastrukturnih projekata. Pored kvalitetnog kadra i dobro kapitalizovanih banaka raduje što kvalitet vide i svakodnevno provjeravaju međunarodne finansijske organizacije, pa su lokalne priče, koju neko vidi u pretjerivanjima na jednu ili drugu stranu, manje bitne.

*„Ne znam da li treba slikovitije prikazati kvalitet ponude banaka kod nas od činjenice da smo kod potrošačkih i kredita za stambene kredite konkurentni i za tržišta Italije, ili Austrije, kao članica EU i korisnika pogodnosti koje pruža Centralna banka EU*

Podsjetio bih na krizne periode koje smo prošli, a najbliže pandemijski period kada su od cijelog finansijskog sektora najveći udar krize pretrpjele banke. One su se suočavale sa padom novih kredita, ali i neizvjesnošću da li će njihovi klijenti moći da otplate stare, s obzirom na prognoze da je svijet čekao talas bankrotstava prezaduženih kompanija. Odgovori na ove izazove sa današnje distance možemo reći da su bili jako dobri, lucidni u podršci klijentima, gdje su se raznim mjerama od restrukturiranja, grace perioda do subvencionisanja pojedinih djelatnosti od strane države, sačuvala se srž privrede i time radna mjesta, a samim tim i punjenje budžeta.

## Kakav je vaš stav prema iskazima nekih analitičara o bankarskom kartelu, ekstra profitu, upoređenju kamata na depozite i na plasmane?

Da bi odgovor bio shvatljiv moramo ukazati da pored cijene kapitala na kamate u

# About banks, comments and questioning new regulations

The article contains the views of the Secretary General of the Association of Banks of Montenegro, Bratislava Pejaković, on the comments of analysts in the Montenegrin media about the banking sector, the establishment of a bank for development, but also about the new proposal of the Government regarding consumer loans.

*„I don't know if the quality of the banks' offers in our country should be presented in a more vivid way than the fact that we are competitive for consumer and housing loans also in the markets of Italy and Austria, as EU Member States and beneficiaries of the benefits provided by the European Central Bank*

## **What is the situation in the banking system of Montenegro?**

All banking indicators are at a very high, high-quality level, and refer to solvency, quality capital base, liquidity and profitability, respecting international standards for banking operations monitored by the CBCG, which of course also produces high-quality profit in bank operations. Previous data should make everyone happy. The state, because all the banks are on the white list and fill the budget for the functioning of the state and of course clients, because the banks have the knowledge, resources and means to support growth through quality projects of both small and medium-sized enterprises and infrastructure projects. In addition to high-quality staff and well-capitalised banks, international financial organisations also check the quality on daily basis, and local stories, which some see in exaggerations on one side or the other, are less important.

I would like to remind you of the crisis periods that we have gone through, the closest

being the pandemic period, when banks suffered the biggest impact of the crisis out of the entire financial sector. They were facing a decline in new loans, but also the uncertainty of whether their clients would be able to repay the old ones, considering the forecasts that the world was waiting for a wave of bankruptcies of over-indebted companies. From today's distance, we can say that the answers to these challenges were very good, they were lucid in supporting clients, where the core of the economy and thus job positions and filling the budgets were preserved through various measures from restructuring, grace periods to subsidising certain activities by the state.

## **What is your view as regards the statements of some analysts about the banking cartel, extra profit, comparing interest on deposits and placements?**

In order for the answer to be understandable, we must point out that, in addition to the cost of capital, the interest rates in bank placements are most affected by risks. At the

## *„Dobra vijest da je Agencija Standard & Poor s povećala je kreditni rejting Crne Gore sa B na B+, uz stabilne izgleda, što je dobro kako za ino investitore tako i za bankare*

plasmanima banaka najviše utiču rizici. Na početku pandemijskog perioda, pored kvalitetne likvidnosti pojedine banke iz našeg sistema su zarad ojačavanja banke tražili dodatna sredstva da bi adekvatno odgovorili na povećanje rezervacija za koje se očekivalo da će se značajno uvećati. Rezervacije se u najvećem procentu izdvajaju za kredite u kašnjenju. Kamatna stopa koja se nudila tim bankama bila je 6% na godišnjem nivou, a to se odnosilo prevashodno na rizik zemlje, jer su pokazatelji poslovanja same banke bili vrlo kvalitetni. Pod kojim kamatama plasirati tu cijenu novca klijentima u Crnoj Gori uvećanu za rizike i potrebu pokrića troškova operativnih? Tako je kako nas vide oni van zemlje, kod kojih je kapital. Prosječna kamatna stopa tog perioda u plasmanima crnogorskih banaka je bila ispod nivoa od 6%, gdje su najbolje firme u predpandemijskom periodu imali kredite ispod 3% na godišnjem nivou, a i danas su kamate za najbolje klijente ispod EURIBOR-a šestomjesečnog, a ovdje neko pominje kartele i ekstra profit. Sticajem okolnosti, istorijskom rastu EURIBOR-a i vrlo kvalitetnoj likvidnosti, bankarski sistemi zemalja iz regiona su ostvarile vanredno visoku dobit, koja je dodatno i rezultat oslobađanja

rezervacija koje su bile u ranijem periodu. Banke u Hrvatskoj su tokom 2023. godine poslovale uz dobit od 1,36 milijardi eura, što je za 647,2 miliona eura ili 91,2 posto više nego godinu ranije. U Srbiji je to bilo za 40% više nego u 2022. godine ili nakon plaćanja poreza 1 milijarda i 44 miliona eura, a neto prihod od kamata uvećan je za 52 posto u odnosu na 2022.

Danas u Crnoj Gori, prosječna kamatna stopa u plasmanima je u padu i primjerena je sistemu u kojem funkcioniše naš bankarski sistem pri inherentnim rizicima, od rizika zemlje, kreditnog, kamatnog, ročne usklađenosti, deviznog, tržišnog, rizika poslovanja, transakcionog, do tehnološkog rizika i ljudskog faktora, ili rizika vezanog za reputaciju. Ne znam da li treba slikovitije prikazati kvalitet ponude banaka kod nas od činjenice da smo kod potrošačkih i kredita za stambene kredite konkurentni i za tržišta Italije, ili Austrije, kao članica EU i korisnika pogodnosti koje pruža Centralna banka EU po podacima Montstata.

Gdje u svijetu možete dobiti kamatnu stopu na depozit od 4% a u više crnogorskih banaka od 3% na godišnjem nivou? Opravdano je držati novac u banci, zarad sigurnosti, kamate, raspoloživosti, osiguranju

po deponentu do 50.000,00 eura kroz Fond za zaštitu depozita, koji raspolaže sa skoro 200 miliona eura sredstava koje su izdvojile same poslovne banke, a u skladu sa EU pravilima. Sada imamo i Fond za sanaciju banaka kao dodatno osiguranje poslovanja registrovanih banaka u Crnoj Gori. Prosjek cijene depozita od 0,24% je rezultat vrlo velikog iznosa depozita po viđenju koji je preko 83% od ukupnih depozita i to daje prostor za ocjene koje nijesu korektne niti utemeljene, jer se podatak istrigne iz konteksta, gdje moramo biti svjesti da preko 95% ukupnih depozita su depoziti do godinu dana. Sa druge strane da li znate za neki kredit da klijenti traže ispod 5 godina ročnosti? Opet se susrećemo sa rizikom, ovdje ročne usklađenosti izvora sredstava i plasmana.

Dobra vijest da je Agencija Standard & Poor s povećala je kreditni rejting Crne Gore sa B na B+, uz stabilne izgleda, što je dobro kako za ino investitore tako i za bankare.

**Neki ukazuju na strah bankara od osnivanja najavljenih banke za razvoj?**

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## „Da smo imali uvid u nacrt Zakona o potrošačkim kreditima sa zadovoljstvom bi ukazali na EU praksu i uporednu praksu u našem sistemu

kao što je Banka za razvoj. Vlada je prepoznala da može kvalitetnije da artikuliše neke zahtjeve i usmjeri sredstva preko banke za razvoj nego preko postojećeg Fonda. Zakonski očekujemo da se uobličići u skladu sa međunarodnim standardima, a poslovanje svakako moraju pratiti dobre prakse. Novina je da će imati i ulogu Izvozno kreditne agencije, što nedostaje našem privrednom sistemu. Svaka banka, tako i ova mora pratiti tržišno poslovanje, pa tako gdje budu plasirali ispod tržišnih cijena, Vlada će nadomjestiti subvencijom dio kamatne stope samoj banci, što se prenebregava u komentarima. U regionu imamo pozitivne primjere rada Razvojnih banaka, ali i negativan epilog Banke za razvoj Vojvodine. Treba učiti iz pozitivnih, ali i negativnih iskustava da se greške ne bi ponavljale, a toga ne bi smjelo biti uz adekvatnu superviziju.

Dobra saradnja sa međunarodnim finansijskim institucijama, Evropskom komisijom i Centralnom bankom Crne Gore siguran sam da će postaviti na kvalitetnim osnovama ovu banku. Udruženje banaka je po upoznavanju sa nacrtom preko

mjerima Hrvatske i Slovenije što korenspodira sa stavovima CBCG i prosljedilo na sve poslaničke klubove Parlamenta 12 avgusta, jer nije bilo javne rasprave, a ipak da budu upoznati sa stavom struke pravovremeno.

### **Kritikuju se neaktivnosti crnogorskih banaka u dijelu investicionog bankarstva, kao i ne postojanje projektnog finansiranja?**

Nema utemeljenja ovakvim komentarima. Preko crnogorskih banaka možete trgovati svim investicionim hartijama od vrijednosti, od akcija do obveznica, domaćih i inostranih. Prikupljanje kapitala za rad preduzeća preko prospekta koji bi uradila specijalizovana institucija, ili banka, nije bilo, jer takvih zahtjeva od strane domaćih subjekata nije ni bilo, ali imamo banke koje su na taj način uvećale svoj kapital. Slično je i sa projektnim finansiranjem.

Projektno finansiranje je prisutno u Crnoj Gori više od 15 godina. Prije nego sam pristupio UBCG i sam sam na taj način pomogao finansiranje značajnim crnogorskim

firmama. Da bi se banke uopšte upustile u posao projektnog finansiranja, provjere koje čini su veoma složene, a uslovi za dobijanje ove vrste kredita izuzetno zahtjevni. Projektno finansiranje je investiciona izgradnja objekata namenjenih daljoj prodaji, ili izdavanju. Obično se vrši finansiranjem investicionog projekta koji je u vlasništvu za taj projekat osnovanog namjenskog privrednog društva (SPV-special purpose vehicle) gde investitor finansira projekat sa 20-30% njegove predračunske vrijednosti u formi investicionog kapitala, a komercijalna banka kreditira izgradnju objekta do 80% njegove predračunske vrijednosti. Ovaj vid finansiranja poskupljuje inpute za investitora, ali daje sigurnost kupcima. Drugi vid projektnog finansiranja je izdvajanja konkretnog projekta od ostatka konglomerata firmi istog vlasnika, ili grupe povezanih lica, gdje je kolateral i protok novca nezavistan od drugih firmi tog, ili tih vlasnika.

### **Komentar na predmet CEZAP vs banke i izmjene i dopune Zakona o potrošačkim kreditima koji će ići na Skupštinsku proceduru usvajanja**

Naglasio bih za one koji nijesu upoznati da niti CEZAP niti sud,



*„The good news is that the Standard & Poor's Agency has increased the credit rating of Montenegro from B to B+, with a stable outlook, which is good for both foreign investors and bankers*

beginning of the pandemic period, in addition to high-quality liquidity, certain banks from our system sought additional funds in order to adequately respond to the increase in provisions, which were expected to increase significantly. The largest percentage of provisions are set aside for outstanding loans. The interest rate that was offered to those banks was 6% on an annual basis, and this was primarily related to the country risk, because the indicators of the bank's own operations were of high quality. At what interest rates should the price of money be placed to clients in Montenegro increased by risks and the need to cover operational costs? That is how those outside the country, who have the capital, see us. The average interest rate of that period in the placements of Montenegrin banks was below the level of 6%, where the best companies in the pre-pandemic period had loans below 3% on an annual basis, and today the interest rates for the best clients are below the six-month EURIBOR, and here someone mentions cartels and extra profits. Due to the combination of circumstances, the historical growth of EURIBOR and high-quality liquidity, the banking systems of the countries in the region achieved an extraordinarily high profit, which was additionally the result of the release

of provisions that were in the earlier period. During 2023, banks in Croatia operated with a profit of 1.36 billion euros which is 647.2 million euro or 91.2 percent more than the year before. In Serbia, it was 40% more than in 2022 or after tax payment of 1 billion and 44 million euro, and net interest income increased by 52 percent compared to 2022.

Today in Montenegro, the average interest rate in placements is falling and is suitable for the system in which our banking system operates with inherent risks, from country risk, credit risk, interest rate, maturity match, foreign exchange, market risk, business risk, transactional risk, to technological risk and the human factor, or reputational risk. I don't know if the quality of the banks' offers in our country should be presented more vividly than the fact that in terms of consumer and housing loans, we are competitive also in the markets of Italy and Austria, as EU Member States and beneficiaries of the benefits provided by the European Central Bank according to the Montstat data.

Where in the world can you get an interest rate on a deposit of 4% and in several Montenegrin banks of 3% on an annual basis? It is justified to keep money in the bank, for the sake of safety, interest, availability, insurance per depositor up to 50,000.00

euro through the Deposit Protection Fund, which has almost 200 million euro set aside by the commercial banks themselves, in accordance with EU rules. Now we also have the Resolution Fund as additional insurance for the operations of registered banks in Montenegro. The average price of deposits of 0.24% is the result of a very large amount of demand deposits, which is over 83% of total deposits, and this gives room for evaluations that are neither correct nor grounded, because the data is taken out of context, where we must be aware that over 95 % of total deposits are deposits up to one year. On the other hand, do you know of any loans that clients are looking for with a maturity of less than 5 years? We are again faced with the risk, maturity match of sources of funds and placement.

The good news is that the Standard & Poor's Agency has increased the credit rating of Montenegro from B to B+, with a stable outlook, which is good for both foreign investors and bankers.

#### **Some point to bankers' fear of establishing the announced bank for development?**

There is no fear, on the contrary, we will get a specialised institution such as the Development Bank. The

ne problematizuju pravo banaka za naplatu naknade za obradu kredita, već procentualno zahvatanja iako je to prisutno i kod sudskih taksi, advokatskih tarifa, kupoprodaje nekretnina, javnih izvršitelja, notara itd. Ovo pitanje smo kandidovali i bilo je dio radnog materijala na sjednici Evropske bankarske federacije održane 7. juna ove godine. Zaključak je da niti jedna država u Evropi ne kuburi sa ovom vrstom problematike i da su banke u više zemalja dobile potvrdu od Vrhovnih sudova, poput Srbije, Češke, ili Austrije, da banke imaju pravo naplate ovih nadoknada.

Iz medija smo saznali da je Vlada Crne Gore prosljedila na usvajanje Zakon o potrošačkim kreditima, uz pozivanje na Direktivu 2014/17 koja se fokusira na specifične vrste kredita, kao što su stambeni krediti. Saglasnost Evropske komisije u smislu usaglašenosti sa EU direktivom na ovaj prijedlog svakako bi dalo specifičnu težinu sa kojom se teško polemše, ali širi pristup od EU uz manjkavosti systemske koje su na žalost prisutne, nisu preporučljive. Nismo upoznati da li se ukida Zakon o zaštiti potrošača korisnika finansijskih usluga koji je bio u koliziji sa Zakonom o potrošačkim kreditima i bankarskim propisima? Država treba da pravi ambijent, a subjekti na tržištu se kroz konkurenciju postavljaju prema klijentima koji biraju od date ponude. Niko ne osporava primjene EU direktiva, međutim iste se preuzimaju iz značajno pravno i ekonomski uređenijih sistema, tako da trebaju prelazni period i

pripremu adekvatnu na nivou sistema, uz uklanjanje, ili značajno smanjenje rizika poslovanja. Na primjer imamo 20.713 kompanija sa blokiranim računima, vrijednosti od preko 1,2 milijarde eura, ili ubrzati proces naplate kroz sudske procedure, koje traju u prosjeku oko 3 godine. Sistemski je problem što za fizička lica ne postoji centralizovani sistem blokade, kao što postoji za pravna lica. Banke se isuviše dugo, a naročito od uvođenja funkcije javnih izvršitelja, susreću sa brojnim problemima systemske i tehničke prirode. Primjer, kada postupaju po navedenim rješenjima o izvršenju, gdje banke nisu ni izvršni povjerioci ni izvršni dužnici, a klijenti vide problem u banci, jer im se blokiraju sredstva u svim bankama bez najave. Javnim izvršiteljama je lakše blokirati kod svih banaka nego ići na site CBCG i vidjeti gdje to lice ima otvorene račune, a dodatno blokiraju i ukupnu imovinu i za beznačajne iznose naplate i naplate što su kontaktirali katastar. Nije rijetkost da se u naredbama od podružnih jedinica Poreske uprave i zaključcima o prinudnoj naplati koje primima od lokalnih samouprava, ne precizira da li se radi o blokadi do konačne naplate, ili jednokratnoj blokadi računa koja je namijenjena prikupljanju sredstava koja u tom trenutku postoje na računu. Dakle kroz konkurentniji ambijent, pogledu na zemlje EU uklanjanjem, ili smanjenjem rizika, samo po sebi dovodi do smanjenja kamata i onda nema potrebe za administrativnim regulacijama.

U bankama već postoje procedure koje se navode za prijedlog kroz medije, npr. procedura upoznaj svog klijenta kao i procedura za rano prepoznavanje potrošača koji bi mogli imati poteškoće u plaćanju, ali i generalno za klijente ne samo za fizička lica. Čemu služe postojeća restrukturiranja, pozivi od strane banke, prepakivanja dugova, objedinjavanja, prelazak sa ugovora sa varijabilnom na fiksnu kamatnu stopu u periodu rasta varijabilne stope iako ugovorom to banka nije u obavezi, u krizi i moratoriji itd. već da se uveća kapacitet klijenta da vrati pare koje je dobio od banke. Transparentnost, pa imate predugovor, a potom ugovor koji svaki klijent treba da pročita gdje su date sve informacije od prava do obaveza i efektivna kamatna stopa koja je propisana od strane CBCG. Dodatna informacija, banke već duže vremena ne naplaćuju naknadu za prijevremeno vraćanje kredita. Da smo imali uvid u nacrt Zakona o potrošačkim kreditima sa zadovoljstvom bi ukazali na EU praksu i uporednu praksu u našem sistemu.

Administriranje mimo tržišnih pravila mogu biti kontraproduktivni, za šta imamo iskustva iz regiona.

*„If we had an insight into the draft Law on Consumer Loans, we would be happy to point out EU practice and comparative practice in our system.*

government has recognised that it can better articulate some demands and direct funds through the development bank than through the existing Fund. Legally, we expect it to be shaped in accordance with international standards, and business operations must certainly follow good practices. The novelty is that it will also have the role of Export Credit Agency, which is lacking in our economic system. Every bank, including this one, must monitor market operations, so where they market below market prices, the Government will subsidise part of the interest rate to the bank itself, which is neglected in the comments. In the region, we have positive examples of the work of Development Banks, but also a negative epilogue of the Bank for the Development of Vojvodina. It is necessary to learn from positive and negative experiences, so that mistakes are not repeated, and this should not happen with adequate supervision.

Good cooperation with international financial institutions, the European Commission and the Central Bank of Montenegro, I am sure, will put this bank on a quality foundation. After getting acquainted with the draft through the Committee for Legal Affairs, the Association of Banks pointed out the standards of operation of this type of banks in the EU with the examples of Croatia

and Slovenia, which corresponds to the views of the CBCG and forwarded it to all parliamentary groups of the Parliament on 12 August, because there was no public discussion, and yet they should be familiar with the position of the profession in a timely manner.

**Montenegrin banks are criticised for their inactivity in the area of investment banking, as well as the non-existence of project financing?**

There is no basis for such comments. You can trade all investment securities, from shares to bonds, domestic and foreign, through Montenegrin banks. There was no collection of capital for the operation of the company through a prospectus made by a specialised institution, or a bank, because there were no such requests from domestic entities, but we have banks that increased their capital in this way. It is similar with project financing.

Project financing has been present in Montenegro for more than 15 years. Before I joined the UBCG, I helped finance important Montenegrin companies. In order for banks to get into the business of project financing, the checks they make are very complex, and the conditions for obtaining this type of loan are extremely demanding.

Project financing is the investment construction of facilities intended for further sale or lease. It is usually done by financing an investment project that is owned by a special purpose vehicle (SPV), where the investor finances the project with 20-30% of its estimated value in the form of investment capital, and a commercial bank credits the construction of the facility up to 80% of its estimated value. This type of financing makes the inputs more expensive for the investor, but gives security to the customers. Another type of project financing is the separation of a specific project from the rest of the conglomerate of companies of the same owner, or a group of connected persons, where the collateral and cash flow is independent of other companies of that or those owners.

**Commentary on the case of CEZAP vs. banks and amendments to the Law on Consumer Loans, which will go to the Parliamentary procedure for adoption**

would like to emphasise for those who are not familiar that neither CEZAP nor the court, do not problematise the right of banks to charge fees for loan processing, but



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percentage capture, although this is also present in court fees, attorney's fees, real estate sales, public executors, notaries, etc. We nominated this question and it was part of the working material at the session of the European Banking Federation held on 7 June this year. The conclusion is that no country in Europe is dealing with this type of problem and that banks in several countries have received confirmation from the Supreme Courts, such as Serbia, the Czech Republic, or Austria, that banks have the right to collect these compensations.

We learned from the media that the Government of Montenegro forwarded for adoption the Law on consumer loans, with reference to Directive 2014/17, which focuses on specific types of loans, such as housing loans. The agreement of the European Commission in terms of compliance with the EU directive would certainly give this proposal a specific weight that is difficult to argue with, but a broader approach from the EU with system deficiencies that are unfortunately present is not advisable. We do not know whether the Law on the Protection of Consumers of Financial Services, which was in conflict with the Law on Consumer Loans and banking regulations, is being repealed? The State should create the environment, and market entities are positioned through competition according to clients who choose from a given offer. No one disputes the application of EU directives, however, they are taken from significantly more

legally and economically regulated systems, so they need a transitional period and adequate preparation at the system level, with the removal or significant reduction of business risks. For example, we have 20,713 companies with blocked accounts, worth over 1.2 billion euro, or the collection process should be accelerated through court procedures, which last on average about 3 years. It is a systemic problem that there is no centralised blocking system for natural persons, as there is for legal persons. Banks have been facing numerous problems of a systemic and technical nature for too long, especially since the introduction of the function of public bailiffs. For example, when they act according to the aforementioned enforcement decisions, where banks are neither enforceable creditors nor enforceable debtors, and clients see a problem in the bank, because their funds are blocked in all banks without notice. It is easier for public bailiffs to block all banks than to go to the CBCG website and see where that person has open accounts, and they additionally block the total assets and for insignificant amounts of collection and collection for contacting the cadastre. It is not rare that in the orders from the regional units of the Tax Administration and the conclusions on enforced collection received from local governments, it is not specified whether it is a blocking until the final collection, or a one-time blocking of the account, which is intended to collect the funds that are in the account at that moment. Therefore,

through a more competitive environment, following the example of the EU countries, by removing or reducing risk, it in itself leads to a reduction in interest rates and then there is no need for administrative regulations.

In the banks, there are already procedures that are stated for the proposal through the media, e.g. the know-your-customer procedure as well as the procedure for early recognition of customers who might have difficulties in paying, but also for customers in general, not only for natural persons. What is the purpose of the existing restructurings, calls from the bank, repackaging of debts, consolidation, transition from a contract with a variable to a fixed interest rate in the period of growth of the variable rate even though the bank is not obligated to do so by contract, in crisis and moratorium, etc. but to increase the client's capacity to return the money he received from the bank. Transparency, so you have a pre-contract, and then a contract that every client should read, where all information from rights to obligations and the effective interest rate prescribed by the CBCG are given. In additions, banks have not charged a fee for early loan repayment for a long time. If we had insight into the draft Law on Consumer Loans, we would be happy to point out EU practice and comparative practice in our system.

Administration outside of market rules can be counterproductive, for which we have experience from the region.



Priredio  
Bratislav Pejaković

# Rizici u bankarskom poslovanju

Upravljanje rizicima podrazumeva blagovremeno identifikovanje i otklanjanje rizika kao i brzo reagovanje u slučaju njihovog nastanka. Cilj je da se rizici izbjegnu, odnosno, da se svedu na najmanju moguću mjeru, kako bi eventualne posledice bile minimalne po sam sistem i svakog njegovog učesnika.

Slogan „Loš učesnik je rizik za sistem, ali loš sistem je rizik za sve učesnike“ jasno govori o tome koliko je važno da u praksi postoje izgrađeni mehanizmi za otklanjanje i minimiziranje rizika. Veoma je važno da su jasno definisani potencijalni rizici kao i ciljevi u upravljanju rizicima. Potrebno je odrediti ko je odgovoran za eliminisanje svakog od definisanih rizika, uspostaviti precizna pravila i procedure i angažovati odgovarajuće materijalne i ljudske resurse za pravilno upravljanje rizicima.

Rizik nikada nije moguće potpuno izbjeći, ali ga je moguće svesti na najmanju moguću mjeru, zahvaljujući kvalitetnim postupcima upravljanja rizikom. Sagledavanje rizika samo je prvi korak u pravcu odluke o tome kako njima treba upravljati i na koji način ga svesti na najmanju moguću mjeru. Menadžment rizika u praksi, pretpostavlja korišćenje hedžing finansijskih instrumenata u cilju otklanjanja ili reduciranja finansijskih rizika, kao i kontrole različitih faktora rizika. Ovakvo upravljanje rizikom se sastoji od korišćenja različitih statističkih metoda kvantifikacije i procjenjivanja identifikovanih rizika koji se nakon toga, različitim hedžing metodama otklanjaju, reduciraju ili čak prihvataju, s tim što se u tom slučaju odvajaju odgovarajuća sredstva rezerve za eventualno finansiranje prihvaćenih rizika.

Za razliku od tradicionalnog komercijalnog bankarstva, snažna ekspanzija investicionog bankarstva u savremenim uslovima bitno je uticala na širenje lepeze rizika kojima su banke izložene u svom poslovanju. To se odnosi, prije svega, na banke koje posluju globalno tj. ne samo na domaćim, već i na međunarodnim finansijskim tržištima.

Upravo iz tih razloga, bankarsko poslovanje izloženo je brojnim rizicima od kojih posebnu važnost iziskuje kreditni rizik. Ovaj rizik finansijskog

# Fraudsters stole almost €60 million in the last four years

FraudSMART, the fraud awareness initiative led by Banking & Payments Federation Ireland (BPF), is issuing a fresh warning to consumers, particularly those over the age of 50, to be on alert as highly convincing investment scams continue to rise, with new cases now emerging of victims of investment fraud being re-targeted by criminals in what is known as 'recovery scams'.

Describing how fraudsters are catching people out, Niamh Davenport, Head of Financial Crime with BPF, said: "While investment scams have been circulating for a while, FraudSMART members have noticed a continued and significant increase in the past few months often targeting people over 50 who may be looking for an opportunity to top up their finances ahead of retirement. Fraudsters are using deceptive and elaborate techniques using the names and branding of well-recognised banks and investment firms, with some fraudsters even going so far as to create a 'copy-cat' profile on social media of a real employee or 'agent'

from an investment firm to convince people of their legitimacy."

## **Emerging trend of 'recovery scams' see victims re-targeted**

FraudSMART members have also seen new cases of victims of investment fraud being re-targeted by criminals in what is known as 'recovery scams'.

Describing these scams, Ms Davenport stated: "We are now seeing a worrying trend emerging where fraudsters are contacting people who have already fallen victim to an investment scam, promising to recover their money but requiring an upfront fee first, sometimes describing it as a 'retainer fee' or 'processing fee'. The recovery scam often comes from the same criminals behind the original investment scam, or else the victim's personal information has been passed on or sold to other criminals. The fraudster, using the information from the previous scam, can 'helpfully' tell the victim about the earlier fraud, which can make them sound credible. There have also been cases

*„Fresh warning issued as fraudsters particularly target people over 50*

*„Slogan „Loš učesnik je rizik za sistem, ali loš sistem je rizik za sve učesnike“ jasno govori o tome koliko je važno da u praksi postoje izgrađeni mehanizmi za otklanjanje i minimiziranje rizika*

gubitka usljed dužnikove nemogućnosti da ispuni svoje finansijske ili ugovorne obaveze najbolje je smanjivati preventivno. Za to je nužno izgraditi i primenjivati precizne procedure i metode ocjene boniteta klijenata. U cilju zaštite od potencijalnih opasnosti rizika nenaplate potraživanja, u bankama se sve više pridaje važnost veštini upravljanja kreditnim rizikom.

Vrste rizika u bankama. Šta sve može da bude rizik u bankarstvu i kako odabrati najbolju strategiju upravljanja rizikom? Upravo iz potrebe za sveobuhvatnim pristupom upravljanju rizikom, rizici kojima mogu biti izložene banke prema standardnoj međunarodnoj klasifikaciji su:

- ▷ kreditni rizik,
- ▷ devizni rizik,
- ▷ kamatni rizik,
- ▷ tržišni rizik,
- ▷ rizik ljudskog faktora,
- ▷ rizik poslovanja,
- ▷ rizik transakcija,
- ▷ tehnološki rizik,
- ▷ rizik vezan za reputaciju.

### **KREDITNI RIZIK**

Kreditni rizik se definiše kao rizik neizvršenja obaveza po osnovu nastalog duga, tj. ne plaćanja glavnice i kamate od strane dužnika. On je prisutan u svim slučajevima kada banka odobrava kredit ili u ime klijenta izdaje kreditni instrument, kao što je garancija, ili akreditiv. Kredit bez rizika ne postoji. Rizik jednostavno znači mogućnost da klijent, koji uzima kredit, ili od banke zahtjeva da izda akreditiv, ili garanciju u njegovo ime, neće biti

u stanju da u rokovima dospeća izvrši svoje obaveze prema banci po osnovu otplate glavnice, plaćanje kamata i naknada. U slučaju da nekoliko ključnih klijenata banke nije u stanju da uredno servisira svoje obaveze, to može izazvati velike gubitke koji mogu da uvuku banku u zonu nesolventnosti.

Uprkos snažne ekspanzije inovacija u sektoru finansijskih usluga krajem prošlog i početkom ovog vijeka, kreditni rizik je još uvijek glavni razlog nesolventnosti banaka. Objašnjenje za to treba tražiti u činjenici da se u savremenim uslovima preko 80% bilansa banke, generalno, odnosi na ovaj aspekt upravljanja bankarskim rizicima. Pri tom, od banke do banke varira udio pojedinih vrsta kreditnog rizika - rizik fizičkog lica (consumer risk), rizik kompanije (company risk) i rizik zemlje (country risk).

Osim navedenog, kreditni rizik treba posmatrati kroz prizmu pada kreditne sposobnosti zajmotražioca, što znači da se tako povećava vjerovatnoća da klijent banke dođe u poziciju da ne izvršava svoje obaveze.

### **DEVIZNI RIZIK**

Devizni rizik nastaje u svim slučajevima kada su banka ili drugo preduzeće suočeni sa neravnotežom u valutnoj strukturi, odnosno, kada su plasmani, ili ostvareni prihodi u jednoj valuti, a izvori, ili obaveze u drugoj valuti. Mada postoje razvijeni instrumenti, kao što su terminski, ili opcioni ugovori, koji se mogu koristiti radi smanjenja nivoa rizika. Zbog toga, banke treba da vode računa o tome da se svaka valutna neusklađenost identifikuje, uz redovno izveštavanje rukovodstva,



*„A motto "A bad participant is a risk for the system, but a bad system is a risk for all participants" clearly speaks of how important it is that in practice there are built-in mechanisms for eliminating and minimising risks*

or contractual obligations is to act preventively. In this regard, it is necessary to develop and apply defined procedures and methods for assessing the creditworthiness of clients. In order to protect against the potential dangers of the risk of outstanding receivables, the importance of credit risk management skills is increasingly being given importance in banks.

Types of risk in banks - What can be a risk in banking and how to choose the best risk management strategy? In order to have a comprehensive approach to risk management, the risks to which banks may be exposed according to the standard international classification are:

- ▷ credit risk,
- ▷ foreign exchange risk,
- ▷ interest rate risk,
- ▷ market risk,
- ▷ human factor risk,
- ▷ business risk,
- ▷ transaction risk,
- ▷ technological risk,
- ▷ reputational risk.

### **CREDIT RISK**

Credit risk is defined as the risk of non-fulfilment of obligations based on the incurred debt, i.e. non-payment of principal and interest by the debtor. It is present in all cases when a bank grants a loan or issues a credit instrument on behalf of the client, such as a guarantee or a letter of credit. Credit without risk does not exist. Risk simply means the possibility that the client, who takes a loan, or asks the bank to issue a letter of credit

or a guarantee on their behalf, will not be able to fulfil their obligations to the bank on maturity based on repayment of the principal, payment of interest and fees. In the event that several of the bank's key clients fail to properly service their obligations, this may cause large losses that can drag the bank into the zone of insolvency.

Despite the strong expansion of innovation in the financial services sector at the end of the last century and the beginning of this century, credit risk is still the main reason for banks' insolvency. The explanation for this should be sought in the fact that in modern conditions over 80% of the bank's balance sheet generally relates to this aspect of banking risk management. At the same time, the share of certain types of credit risk varies from bank to bank - consumer risk, company risk and country risk.

In addition to the above, the credit risk should be viewed through the prism of the decline in the borrower's creditworthiness, which means that the probability that the bank's client will be to meet their obligations increases.

### **FOREIGN EXCHANGE RISK**

Foreign exchange risk arises in all cases when a bank or other company is faced with an imbalance in the currency structure, i.e., when placements or realised income are in one currency, and sources or liabilities are in another currency. There are developed instruments, such as futures or option contracts, which can be used to reduce the level of risk. Therefore, banks should take care that any currency mismatch is identified, with

tako da se može neutralisati ukoliko se kurs kreće na način koji ne odgovara banci.

Banke, takođe, treba da vode računa o situacijama kada su njihovi klijenti koji su korisnici kredita izloženi deviznom riziku. Ovo je naročito značajno u slučajevima kada klijent dobije kredit od banke u jednoj valuti - razlozi za to su uglavnom niže kamatne stope – pri čemu su njegova sredstva, ili ostvareni prihod u drugoj valuti.

### KAMATNI RIZIK

Banka je izložena kamatnom riziku u slučajevima kada se osnov pasivne kamatne stope ili ročnost depozita klijenata razlikuje od osnova aktivne kamatne stope, odnosno ročnosti odobrenih kredita. Većina banaka primenjuje promenljive aktivne kamatne stope, što im omogućava promenu stope u skladu sa kretanjem kamatnih stopa na tržištu. Međutim, ukoliko banka, na primer, odobrava kredite po fiksnoj kamatnoj stopi u određenim srednjoročnim ili dugoročnim periodima, a istovremeno ne raspolaže depozitima iste ročnosti, izlaže se kamatnom riziku i moguće je da ostvari gubitke ukoliko se kamatne stope na tržištu kreću na način koji joj ne odgovara.

### TRŽIŠNI RIZIK

Tržišta se konstantno mijenjaju - pojavljuju se novi proizvodi, kao i nove tehnologije i novi konkurenti. Banke i druga preduzeća moraju biti svjesna promjena na tržištima na kojim posluju i prilagođavati se tim promjenama; u protivnom, rizikuju mogućnost da izgube svoj dio tržišta. Primjer za to je ekspanzija evropskih banaka u našoj zemlji ili, u novije vrijeme, banke koje prodiru na nova tržišta proizvoda, kao što je posredovanje u berzanskoj trgovini.

Terminski, ili opcioni ugovori su ugovori o kupoprodaji određene aktive po unaprijed definisanoj cijeni, gdje će se isporuka aktive i konačno plaćanje izvršiti određenog dana u budućnosti.

Sa tržišnim rizikom suočene su, prije svega, banke kod kojih dominantno mjesto pripada proizvodima iz investicionog bankarstva. Tržišni

rizik predstavlja rizik od negativnih odstupanja vrijednosti otvorene trgovačke pozicije na osnovu dnevne cijene zatvaranja (mark-to-market value) u portfoliju banke koji je predmet trgovanja tokom perioda neophodnog da transakcija bude likvidirana (zatvorena).

Na svim tržištima prisutna je konkurencija i rizik podrazumjeva mogućnost da banka konstatuje da nije sposobna za uspješnu utakmicu na novom tržištu zato što, prije prodora na novo tržište nije obavljeno adekvatno istraživanje, što ima za posledičnu činjenicu da tržište nije ni sagledano na pravi način. Ovaj aspekt je posebno značajan za banku, ne samo u situacijama kada i sama nastupa na novom tržištu, već i kada se od nje zahtjeva da finansira prodor klijenta na nova tržišta.

### RIZIK LJUDSKOG FAKTORA

Možemo slobodno reći da bankarsko poslovanje „počiva na ljudima“ i da su ljudi koji čine banku njen najveći kapital. Svaki čovjek koji radi može da pogriješi i moguće je da napravi greške koje podrazumevaju pogrešnu procjenu, a za banku predstavljaju materijalni gubitak. Ovaj rizik svodi se na najmanju moguću mjeru tako što se angažuju kvalitetni kadrovi, uz odgovarajuću obuku za poslove koje treba da obavljaju i adekvatnu motivaciju kroz korektan sistem nagrađivanja i obezbjeđenje dobrih radnih uslova. Zaposleni koji nisu adekvatno obučeni, niti motivisani, na kraju, za banku postaju opterećujuća obaveza, a ne kapital kojim raspolaže.

### RIZIK POSLOVANJA

Ovo je rizik koji je posledica neadekvatnih, ili neuspješnih internih procesa, ili sistema. Može biti izražen u različitim oblicima, tako da banka može biti izložena gubicima po kreditu, zbog toga što je kredit odobrilo lice koje nije na odgovarajućoj funkciji, ili nema dovoljno iskustva da odobri kredit. Da bi ovaj rizik svela na najmanju moguću mjeru, banka uvijek mora da vodi računa o tome da je adekvatan postupak odobravanja kredita postavljen na pravi način. Banka može pretrpjeti gubitke i pošto se konstatuje da je

regular reporting to management, so that it can be neutralised if the exchange rate moves in a way that does not suit the bank.

Banks should also consider the situations when their clients as loan beneficiaries are exposed to foreign exchange risk. This is especially important in cases where the client takes a loan from a bank in one currency - the reasons for this are mainly lower interest rates – whereby their funds, or the realised income are in another currency.

### **INTEREST RATE RISK**

The bank is exposed to interest rate risk in cases where the basis of the deposit interest rate or maturity of client deposits differs from the basis of lending interest rate, i.e. the maturity of granted loans. Most banks apply variable lending interest rates, which allow them to change the rate in accordance with the interest rate trends in the market. However, where a bank, for instance, grants loans at fixed interest rate in certain medium-term or long-term periods, and at the same time does not have deposits with the same maturity, it is exposed to interest rate risk and it is possible to realise losses if interest rates in the market move in a different way.

### **MARKET RISK**

Markets are constantly changing - new products appear, as well as new technologies and new competitors. Banks and other companies must be aware of changes in the markets in which they operate and adapt to those changes; otherwise, they risk to lose their market share. The expansion of European banks in our country can be an example, or more recently, banks that have penetrated new product markets, such as brokerage in stock trading.

Futures or option contracts are contracts for the purchase and sale of certain assets at a pre-determined price, where the delivery of the asset and the final payment will be made on a certain date in the future.

Market risk is faced, first of all, by banks where investment banking products prevail. Market

risk is the risk of downside deviations in the value of an open trading position based on the daily closing price (mark-to-market value) in the bank's portfolio which is the subject of trading during the period necessary for the transaction to be closed.

There is competition in all markets and the risk includes the possibility that the bank finds that it is not capable of successfully competing in a new market because adequate research was not carried out before entering the new market, which results in the fact that the market is not even viewed in the right way. This aspect is particularly important for the bank, not only in situations when a bank enters a new market, but also when it is required to finance the client's penetration into new markets.

### **HUMAN FACTOR RISK**

We can safely say that banking business "rests on people" and that the people who make the bank are its biggest capital. Every person who works can make mistakes and it is possible to make mistakes that imply a wrong assessment, and represent a material loss for the bank. This risk is minimised by hiring quality staff, with appropriate training for the tasks they need to perform and adequate motivation through a correct reward system and provision of good working conditions. Employees who are not adequately trained, nor motivated, in the end, become a burdensome liability for the bank, and not the capital at its disposal.

### **BUSINESS RISK**

This is a risk that is a consequence of inadequate or unsuccessful internal processes or systems. It can be expressed in different forms, so the bank can be exposed to losses on the loan, because the loan was granted by a person who is not in the appropriate position, or does not have enough experience to grant a loan. In order to minimise this risk, the bank must always take care that an adequate lending procedure is set up in the right

*„Sagledavanje rizika samo je prvi korak u pravcu odluke o tome kako njima treba upravljati i na koji način ga svesti na najmanju moguću mjeru*

njena dokumentacija nekompletna i da nema izvršnu snagu zato što nije ustanovljen sistem koji obezbeđuje odgovarajuću provjeru dokumentacije prije povlačenja sredstava kredita.

Što se tiče ovog rizika najčešće su u pitanju: odsustvo adekvatnih procedura za izveštavanje, monitoring i odlučivanje, uključujući i neadekvatnu obradu informacija, neadekvatna kontrola tih procesa, manjkavosti u organizacionoj šemi, odsustvo podsticaja da se izbjegne ulazak u zonu prevelike izloženosti riziku, itd.

Da bi ovaj rizik svela na najmanju moguću mjeru, banka treba da ima utvrđene i ustanovljene operativne procedure u pisanom obliku u kome je precizno predviđeno ko je odgovoran za svaki od poslova koje banka obavlja i način na koji se ti poslovi obavljaju, kao i odgovornost za provjeru ispravnosti obavljenih poslova.

### **RIZIK TRANSAKCIJA**

Rizik transakcija usko je povezan sa rizikom poslovanja, a nastaje kad god banka u svojim knjigama iskazuje promenu po nekoj transakciji, pri čemu je pristutan rizik da, na primer, dođe do isplate u korist pogrešnog računa, s tim da transakcija kasnije ne može da se stornira, ili se u deviznom poslu primjeni pogrešan kurs. Svakoju banci dešava se da prilikom zaključivanja posla primjeni kupovni umjesto prodajni kurs. Ovaj rizik takođe se svodi na najmanju moguću mjeru zahvaljujući tome što postoji kvalitetan i svrsishodan priručnik sa operativnim procedurama.

### **TEHNOLOŠKI RIZIK**

U svim oblastima poslovanja sve je izraženije oslanjanje na tehnologiju koja je izložena izuzetno brzim promjenama. Banke koje se ne odlučuju na

razumna ulaganja u cilju neutralisanja tehnološkog rizika suočavaju se sa većim troškovima nego što je to slučaj kod konkurenata, što je praćeno nedovoljno efikasnim i preskupim poslovanjem. Kod tehnološkog faktora imaju se u vidu moguće greške koje su svojstvene modelu koji se koristi, kao i greške tokom primjene koje najčešće proističu iz toga što se ne posjeduju adekvatni alati za mjerenje rizika.

U Bazelskom sporazumu rizik ljudskog faktora, rizik poslovanja, rizik transakcija i tehnološki rizik ubrajaju se u operativni rizik, koji se definiše kao „rizik direktnog ili indirektnog gubitka koji proističe iz neadekvatnih ili pogrešnih internih procesa, ljudi i Sistema ili eksternih događaja“.

U široj elaboraciji ove definicije, može se reći da je banka izložena operativnim rizicima zbog niza činilaca kao što su: loše funkcionisanje informacionog sistema, sistema izvještavanja internih pravila za monitoring rizika, neadekvatno oblikovane interne procedure koje ne omogućavaju preduzimanje korektivnih akcija, neusklađenost tih procedura sa internim pravilima koja se odnose na politiku koju banka vodi u pogledu zaštite od rizika.

### **RIZIK VEZAN ZA REPUTACIJU**

Banke se oslanjaju na poverenje klijenata i, naročito, na povjerenje akcionara i deponenata. Ako banka stekne lošu reputaciju na tržištu – kao banka kojom se loše rukovodi, što do vodi do nerentabilnog poslovanja i još gore, do nekvalitetne aktive – gubi poverenje. Ako ovaj aspekt nije podložan redovnim provjerama i korekcijama, u najgorem slučaju, može banku izložiti „napadu“ deponenata u cilju povlačenja sredstava.

*„Risk assessment is the first step towards deciding how to manage them and how to minimise them*

way. The bank can suffer losses even if it is found that its documentation is incomplete and has no enforcement power because a system has not been established to ensure the proper verification of documentation before withdrawing loan funds.

As for this risk, the most common issues are: absence of adequate procedures for reporting, monitoring and decision-making, including inadequate processing of information, inadequate control of these processes, deficiencies in the organisational scheme, absence of incentives to avoid entering the zone of excessive exposure to risk, etc.

In order to minimise this risk, the bank should determine and establish operating procedures in writing, which define the responsibility of individuals for each of the tasks performed by the bank and the manner in which these tasks are performed, as well as responsibility for checking the correctness of the work performed.

#### **TRANSACTION RISK**

Transaction risk is closely related to business risk, and it arises whenever the bank shows a change of a transaction in its books, where there is a risk that, for example, a payment will be made to the wrong account, with the fact that the transaction cannot be reversed later or the wrong exchange rate is applied in the foreign exchange transaction. It happens to every bank that, when concluding a deal, it applies a buying rate instead of a selling rate. This risk is also minimised by having a quality and purposeful operating procedures manual.

#### **TECHNOLOGICAL RISK**

In all areas of business, there is an increasingly pronounced reliance on technology, which is

exposed to extremely rapid changes. Banks that do not decide on reasonable investments in order to neutralise technological risk face higher costs than competitors, which is accompanied by insufficiently efficient and overpriced operations. With the technological factor, possible errors inherent in the model being used are taken into account, as well as errors during application, which most often result from not having adequate risk measurement tools.

In the Basel Accord, human factor risk, business risk, transaction risk and technological risk are included in operational risk, which is defined as "the risk of direct or indirect loss arising from inadequate or faulty internal processes, people and systems or external events".

In a broader elaboration of this definition, it can be said that the bank is exposed to operational risks due to a number of factors such as: poor functioning of information system, reporting system of internal rules for risk monitoring, inadequately designed internal procedures that do not allow corrective actions to be taken, non-compliance of those procedures with internal rules related to the bank's risk protection policy.

#### **REPUTATIONAL RISK**

Banks rely on the confidence of clients and, especially, on the confidence of shareholders and depositors. If the bank gets a bad reputation in the market - as a poorly managed bank which leads to unprofitable business and even worse, to poor quality assets - it loses confidence. If this aspect is not subject to regular checks and corrections, in the worst case, it can expose the bank to run on deposits in order to withdraw funds.

# Prevaratni za četiri godine uzeli 60 miliona

*„Novo upozorenje je izdato jer prevaranti posebno ciljaju osobe starije od 50 godina*

FraudSMART, inicijativa za podizanje svijesti o prevarama koju vodi Federacija Irske za bankarstvo i platni promet (BPFİ), izdaje novo upozorenje potrošačima, posebno licima starijim od 50 godina, da budu na oprezu jer uvjerljive investicione prevare i dalje rastu, sa novim slučajevima sada se pojavljuju žrtve investicionih prevara koje su ponovo na meti kriminalaca u onome što je poznato kao 'prevare za povraćaj izgubljenog novca'.

Opisujući kako prevaranti hvataju ljude, Niam Davenport, šefica odjeljenja za finansijski kriminal u BPFİ-u, rekla je: "Iako su prevare u vezi ulaganja kružile neko vrijeme, članovi FraudSMART-a primijetili su kontinuiran i značajan porast u posljednjih nekoliko mjeseci koji su često ciljani na osobe starije od 50 godina koje možda traže priliku da dopune svoje finansije prije odlaska u penziju. Prevaranti koriste obmanjujuće i razrađene tehnike koristeći imena i brendiranje poznatih banaka i investicionih firmi, a neki prevaranti idu čak toliko daleko da kreiraju profil "imitatora" na društvenim mrežama stvarnog zaposlenog ili

"agenta" iz investicione firme koja će uvjeriti ljude u njihov legitimitet."

**Novi trend 'prevare za povraćaj izgubljenog novca' dovodi do ponovnog ciljanja žrtava**

Članovi FraudSMART-a su također uočili nove slučajeve kada su žrtve investicionih prevara ponovo ciljane od strane kriminalaca u onome što je poznato kao 'prevare za povraćaj izgubljenog novca'.

Opisujući ove prevare, gospođa Davenport je izjavila: „Sada vidimo pojavu zabrinjavajućeg trenda u kojem prevaranti kontaktiraju ljude koji su već postali žrtve investicione prevare, obećavajući da će povratiti svoj novac, ali prvo zahtijevaju naknadu unaprijed, ponekad to opisuju kao „honorar" ili „naknadu za obradu". Prevara za povraćaj izgubljenog novca često dolazi od istih kriminalaca koji stoje iza prvobitne prevare ulaganja, ili su lični podaci žrtve proslijeđeni ili prodati drugim kriminalcima. Prevarant, koristeći informacije iz prethodne prevare, može ljubazno reći žrtvi o ranijoj prevari, zbog čega može zvučati

# Fraudsters stole almost €60 million in the last four years

FraudSMART, the fraud awareness initiative led by Banking & Payments Federation Ireland (BPF), is issuing a fresh warning to consumers, particularly those over the age of 50, to be on alert as highly convincing investment scams continue to rise, with new cases now emerging of victims of investment fraud being re-targeted by criminals in what is known as 'recovery scams'.

Describing how fraudsters are catching people out, Niamh Davenport, Head of Financial Crime with BPF, said: "While investment scams have been circulating for a while, FraudSMART members have noticed a continued and significant increase in the past few months often targeting people over 50 who may be looking for an opportunity to top up their finances ahead of retirement. Fraudsters are using deceptive and elaborate techniques using the names and branding of well-recognised banks and investment firms, with some fraudsters even going so far as to create a 'copy-cat' profile on social media of a real employee or 'agent'

from an investment firm to convince people of their legitimacy."

## **Emerging trend of 'recovery scams' see victims re-targeted**

FraudSMART members have also seen new cases of victims of investment fraud being re-targeted by criminals in what is known as 'recovery scams'.

Describing these scams, Ms Davenport stated: "We are now seeing a worrying trend emerging where fraudsters are contacting people who have already fallen victim to an investment scam, promising to recover their money but requiring an upfront fee first, sometimes describing it as a 'retainer fee' or 'processing fee'. The recovery scam often comes from the same criminals behind the original investment scam, or else the victim's personal information has been passed on or sold to other criminals. The fraudster, using the information from the previous scam, can 'helpfully' tell the victim about the earlier fraud, which can make them sound credible. There have also been cases

*„Fresh warning issued as fraudsters particularly target people over 50*

## „Pojavljuje se zabrinjavajući trend gdje prevaranti ponovno ciljaju ljude koji su već postali žrtve investicione prevare, obećavajući da će povratiti svoj novac

vjerodostojno. Bilo je i slučajeva kada su ljudi bili ciljani putem reklama na mreži i na društvenim mrežama. Nažalost, naši članovi su uočili slučajeve ovih prevara u rasponu od 1.000 do 10.000 eura.”

Komentarišući šta bi potrošači trebalo da urade, gospođa Davenport je dodala: „Dok banke koriste niz mjera za zaštitu potrošača, prevaranti sve više ciljaju na potrošače direktno i to može imati razoran uticaj, stoga je važno da svi znamo kako da zaštitimo sebe. Posebno budite oprezni sa oglasima na mreži i na platformama društvenih medija, čak i ako su plaćeni ili sponzorisani oglasi koji koriste poznate brendove ili nazive preduzeća. Zastanite na tren i kontaktirajte kompaniju nezavisno kako biste provjerili detalje. Ne vjerujte telefonskim prodajama, tekstualnim porukama, pismima, mejlovima ili porukama na društvenim mrežama od nekoga ko kaže da može povratiti novac koji ste izgubili u prevari uz naknadu. Ovo jednostavno nije istina. Ako ste prenijeli novac ili podijelili svoje bankarske podatke i shvatite da bi to mogla biti prevara, odmah to prijavite svojoj banci i Gardai.”

### Investicione prevare su sada najzastupljenija vrsta kriminala u Irskoj

Upozorenje dolazi pošto nedavni podaci iz An Garda Síochána pokazuju da je skoro 60 miliona eura ukradeno od žrtava prevare ulaganjima u posljednje četiri godine i da je to sada tip kriminala sa najvećom zaradom u Irskoj.

Detektiv Majkl Krajan iz Nacionalnog biroa za ekonomski kriminal Garde izjavio je: „I dalje uočavamo značajan porast investicionih prevara, koje mogu biti vrlo uvjerljive i sofisticirane. Nedavni podaci koje je objavila An Garda Síochána pokazuju porast od preko 90% u izvještajima o ovoj vrsti prevare u 2023. godini i ova povećanja se nastavljaju i 2024. godine. Žrtve ove vrste prevare obično su starije od 50 godina i savjetujemo cijeloj javnosti, posebno onim starijim od 50 godina, da budu na oprezu u pogledu ove vrste prevare, da budu oprezni kada su u pitanju ponude koje se oglašavaju samo putem društvenih medija ili koje navodno podržavaju poznate ličnosti i ako vjerujete da ste žrtva prevare ulaganja, prijavite

to vašoj banci i An Garda Síochána što je prije moguće. Uvijek potražite stručni savjet prije nego što uložite i ako neka ponuda zvuči predobro da bi bila istinita, onda, nažalost, ona to vjerovatno i jeste.”

### Kontrolna lista kako biste izbjegli prevare u vezi s ulaganjem:

1. **Ne žurite:** Važno je napomenuti da postoji vrlo malo legitimnih mogućnosti ulaganja koje zahtijevaju da odmah predate ili prenesete novac.
2. **Detaljno istražite:** Provjerite po jedinca i firmu za kvalifikacije, preporuke, reputaciju i istorijat. Budite oprezni sa brošurama koje mogu izgledati legitimno. Kontaktirajte investicionu firmu direktno koristeći brojeve sa njihove zvanične Internet stranice ili drugog uglednog nezavisnog izvora. Centar za potrošače Centralne banke je dobro mjesto za početak.
3. **Provjerite informacije:** Provjerite sve informacije kod treće strane od povjerenja kao što je pravni/ finansijski stručnjak i konsultujte porodicu i bliske prijatelje.



*„Worrying trend emerging where fraudsters are re-targeting people who have already fallen victim to an investment scam, promising to recover their money*

where people have been targeted through online and social media ads. Unfortunately, our members have seen cases of these scams ranging from anywhere from €1,000 to €10,000.”

Commenting on what consumers should do, Ms Davenport added: “While banks are using a range of measures to protect customers, fraudsters are increasingly targeting consumers directly and it can have a devastating impact, so it is important for us all to know how to protect ourselves. In particular, be cautious of adverts online and on social media platforms, even if they are paid or sponsored ads using familiar brand or business names. Pause for thought and contact the company independently to verify the details. Don’t trust cold calls, text messages, letters, emails, or messages on social media from someone who says they can recover money you lost in a scam for a fee. This simply isn’t true. If you have transferred money or shared your bank details and realise it might be a scam, report it to your bank and the Gardaí immediately.”

**Investment fraud is now the highest grossing crime type in Ireland**

The warning comes as recent figures from An Garda Síochána show that almost €60 million was stolen from victims of investment fraud in the past four years and it is now the highest grossing crime type in Ireland.

Detective Superintendent Michael Cryan of the Garda National Economic Crime Bureau stated: “We are continuing to see significant increases in investment scams, which can be very convincing and sophisticated. Recent figures published by An Garda Síochána showed an increase of over 90% in reports of this type of fraud in 2023 and these increases are continuing into 2024. Victims of this type of fraud tend to be over 50 years of age and we would like to advise all members of the public, particularly those over age of 50, to be on alert for these scams, to be wary of offers only advertised through social media or allegedly endorsed by celebrities and if you believe you may be victim of investment fraud to report it to

your bank and An Garda Síochána as soon as possible. Always seek professional advice before making any investments and if an offer sounds too good to be true, then unfortunately it probably is.”

**Checklist to avoid investment scams:**

- 1. Take your time:** It is important to note that there are very few legitimate investment opportunities that require you to hand over or transfer money immediately.
- 2. Research thoroughly:** Check the individual and firm for qualifications, credentials, reputation and history. Be wary of brochures that may appear legitimate. Contact the investment firm directly using numbers from their official website or other reputable independent source. The Central Bank Consumer Hub is a good place to start.
- 3. Verify the Information:** Check all information with a trusted third party such as a legal/financial professional and consult family and close friends.

4. **Provjerite ponovo:** Ako ste uložili u posljednjih nekoliko sedmica ili mjeseci, uvijek je dobro da se ponovo provjere detalji i potvrde detalji o investicionim firmama putem nezavisnog i uglednog izvora.

### Kontrolna lista za izbjegavanje prevara za povraćaj izgubljenog novca

- ▷ Ako ste već postali žrtva investicione prevare, budite posebno oprezni.
- ▷ **Ne vjerujte telefonskim prodajama**, tekstualnim porukama, pismima, mejlovima ili porukama na društvenim mrežama od nekoga ko kaže da može povratiti novac koji ste izgubili u prevari uz naknadu.
- ▷ **Nikad ne plaćajte naknadu** za povraćaj novca ili pomoć oko povraćaja sredstava – tj. nikada ne dajte detalje u vezi vašeg bankarskog računa, debitnu/kreditnu karticu ili druge podatke o plaćanju da biste dobili povraćaj novca.
- ▷ Budite veoma oprezni u dijeljenju bilo kakvih ličnih podataka u vezi sa vašim iskustvom kao žrtva prevare. Objava na društvenim mrežama u kojoj se dijele detalji o tome kako ste žrtva može privući pažnju prevaranta za povraćaj izgubljenog novca i dovesti do ponovnog ciljanja.
- ▷ Ako ste u nedoumici, kontaktirajte svoju banku i An Garda Síochána.

Današnje upozorenje dolazi uoči pokretanja novog informativnog letka koji je objavio FraudSMART

na događaju 'Pod lupom o investicionim prevarama' koji se održava uz podršku Nacionalnog biroa za privredni kriminal Garde i Komisije za zaštitu konkurencije i potrošača (CCPC).

### Uzorak slučaja žrtve prevare za povraćaj izgubljenog novca – Martinova priča\*

Martin, koji je upravo pred penzijom, postao je žrtva investicione prevare nakon što je uložio 80.000,00 eura svoje životne uštedevine u ono što je vjerovao da je prava investiciona šema. Istraživao je mogućnosti ulaganja na internetu i putem sponzorisanе pretrage kliknuo na, kako se pokazalo, lažnu internet stranicu za poređenje koja prikazuje različite 'investicione opcije', u rasponu od zelenih obveznica, državnih obveznica i drugih srednjoročnih prilika za ulaganja. Unio je svoje kontakt podatke u obrazac na internet stranici i 'agent' ga je nazvao da odgovori na njegov upit. Martina su uvjerali da izvrši seriju uplata na 'investicioni račun' i on je primao redovne mejlove od 'agenta' za koje se činilo da su pokazali pozitivne povraćaje. Kada je konačna uplata završena, svi kontakti sa 'agentom' su prestali i on je na kraju shvatio da je žrtva razrađene prevare.

Šest mjeseci nakon početne prevare, Martin je primio telefonski poziv za koji se tvrdilo da je iz 'firme za povraćaj sredstava' i rečeno mu je da može vratiti izgubljena sredstva ako plati 'administrativnu taksu' od 8.000 eura (10 % naknade za ono što je prvobitno ukradeno), za koju su

obećali da će biti vraćena. Martin je platio 'administrativnu taksu', ali nekoliko dana kasnije postao je sumnjičav jer nije dobio nikakav odgovor od 'firme za povraćaj novca' i kontaktirao je svoju banku An Garda Síochána. Njegov slučaj je trenutno pod istragom.

*\*Ime i pojedini detalji su promijenjeni radi zaštite identiteta žrtve*

**O FraudSMART-u:** FraudSMART je inicijativa za podizanje svijesti o prevari koju je razvila Federacija Irske za bankarstvo i platni promet (BPFI) u saradnji sa sljedećim bankama članicama, Allied Irish Bank plc, Bank of Ireland, PTSB, Ulster Bank, An Post Money, Avant Money, Citibank Europe plc, Barclays i Revolut. Program ima za cilj podizanje svijesti potrošača i poslovnih subjekata o najnovijim aktivnostima i trendovima finansijskih prijevara i pružanje jednostavnih i nepristrasnih savjeta o tome kako najbolje mogu zaštititi sebe i svoje resurse. [www.fraudsmart.ie](http://www.fraudsmart.ie)

**O BPFI:** Federacija Irske za bankarstvo i platni promet predstavlja bankarski, platni i fintech sektor u Irskoj. Zajedno sa svojim filijalama, Federacijom međunarodnih banaka u Irskoj i Udruženja fintech-a i platnog prometa Irske, BPFI ima preko 125 institucija članica i saradnika, uključujući licencirane domaće i strane banke i institucije koje djeluju na finansijskom tržištu.

**4. Check again:** If you have made an investment in recent weeks or months it is always worth checking the details again and verify the investment firms details through an independent and reputable source.

#### **Checklist to avoid recovery scams**

- ▷ If you've already fallen victim to an investment scam, be particularly alert.
- ▷ **Don't trust cold calls**, text messages, letters, emails, or messages on social media from someone who says they can recover money you lost in a scam for a fee.
- ▷ **Never pay a fee** for a refund or help with a refund – i.e. never give your bank account, debit/credit card, or other payment information to get a refund.
- ▷ Be very wary about sharing any personal information in relation to your experience as a victim of a scam. A social media post sharing details of being a victim can attract the attention of recovery scammers and lead to being re-targeted.
- ▷ If in any doubt contact your bank and An Garda Síochána.

Today's warning comes ahead of the launch of a new information leaflet published by FraudSMART at a 'Spotlight on Investment Scams' event being held with support from the Garda National Economic Crime Bureau and the Competition and Consumer Protection Commission (CCPC).

#### **Sample case of victim of recovery fraud – Martin's Story\***

Martin, who is just ahead of retirement, fell victim to an investment scam after investing €80,000.00 of his life savings in what he believed was a real investment scheme. He had researched investment opportunities online and through a sponsored search clicked on, what turned out to be, a fake comparison website showing different 'investment options', ranging from green bonds, government bonds and other medium term investment opportunities. He input his contact details to a form on the website and an 'agent' called him to follow up on his query. Martin was persuaded to make a series of payments to an 'investment account' and he received regular emails from the 'agent' which appeared to show positive returns. When the final payment was complete all contact from the 'agent' ceased and he eventually realised he was a victim of an elaborate scam.

Six months after the initial scam, Martin received a cold call which claimed to be from a 'refund recovery firm' and he was told that he could recover the funds he had lost if he paid an 'administration fee' of €8,000 (a 10% fee what had been stolen originally), which they promised would be refunded. Martin paid the 'administration fee' but several days later he became suspicious when he wasn't getting any response from the 'refund recovery firm' and he contacted his bank An Garda Síochána. His case is currently under investigation.

*\*The name and some details have been changed to protect the identity of the victim*

**About FraudSMART:** FraudSMART is a fraud awareness initiative developed by Banking & Payments Federation Ireland (BPF) in conjunction with the following member banks, Allied Irish Bank plc, Bank of Ireland, PTSB, Ulster Bank, An Post Money, Avant Money, Citibank Europe plc, Barclays and Revolut. The programme aims to raise consumer and business awareness of the latest financial fraud activity and trends and provide simple and impartial advice on how best they can protect themselves and their resources. [www.fraudsmart.ie](http://www.fraudsmart.ie)

**About BPF:** Banking & Payments Federation Ireland (BPF) represents the banking, payments and fintech sector in Ireland. Together with its affiliates, the Federation of International Banks in Ireland and the Fintech & Payments Association of Ireland, BPF has over 125 member institutions and associates, including licensed domestic and foreign banks and institutions operating in the financial marketplace.



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# Prednosti i mane implementacije instant plaćanja

Pokretanje Sistema bržeg plaćanja 2008. godine u Ujedinjenom Kraljevstvu bio je početak moderne ere usluga instant plaćanja. Više od 50 zemalja pridružilo se Velikoj Britaniji od tada, a usluge instant plaćanja postale su norma u industriji plaćanja. Broj zemalja raste iz mjeseca u mjesec, a naglasak se već stavlja ne samo na implementaciju novih sistema već, još više, na postizanje međusobne povezanosti između sistema i nuđenja instant plaćanja preko granica. Mađarska je oduvijek bila inovativna zemlja, a turisti su, na primjer, već 1961. godine imali

mogućnost plaćanja bankarskim karticama. Stoga ne čudi što je Narodna banka Mađarske donijela hrabru odluku da uvede usluge instant plaćanja u zemlji. Za nešto više od tri godine pokrenut je jedinstven sistem koji je nudio usluge instant plaćanja u mađarskim forintama. Ovaj rad daje komentare na projekat na osnovu pregleda perioda implementacije.

## UVOD

Datum 2. mart 2020. je prekretnica u istoriji finansijskih usluga u Mađarskoj: tačno u 0:00:00 centralna infrastruktura, kojom upravlja Giro Ltd, otvorena je za pružaoce platnih usluga (PSP) za obradu instant platnih transakcija za i u ime svojih klijenata.

Dan je bio poseban i po tome što se mađarski sistem po mnogo čemu razlikuje od većine sistema instant plaćanja koji rade širom svijeta. Glavna razlika je personalizovani obim projekta, koji pokazuju i sledeće karakteristike koje definiše Narodna banka Mađarske:

▷ korišćenje usluge instant plaćanja kojom upravlja Giro Ltd je propisano uredbom Narodne banke

*„Datum 2. mart 2020. je prekretnica u istoriji finansijskih usluga u Mađarskoj: tačno u 0:00:00 centralna infrastruktura, kojom upravlja Giro Ltd, otvorena je za pružaoce platnih usluga*

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# Dos and don'ts of immediate payment implementation

The launch of the Faster Payments System in 2008 in the United Kingdom was the start of the modern era of immediate payments services. More than 50 countries have joined the UK since, and instant payment services have become to be the norm in the payment industry. The number of countries is growing from month to month, and the emphasis is already being placed not merely on the implementation of new systems but, even more, on reaching interconnectivity among systems and offering instant payments across the borders too. Hungary has always been an innovative country, and tourists had the option of paying with bank cards, for example, as early as in 1961. It is not surprising, therefore, that the National Bank of Hungary made a bold decision to implement immediate payment services in the country. In just over three years a unique system was launched that offered immediate payments services in Hungarian Forints. This paper offers comments on the project based on a review of the implementation period.

## INTRODUCTION

The date 2 March 2020 is a landmark in the history of financial services in Hungary: exactly at 0:00:00 the central infrastructure, operated by Giro Ltd, was opened to payment service providers (PSPs) to process immediate payment transactions for and on behalf of their customers.

The day was special also because the Hungarian system differs in many respects from most of the instant payment systems operated worldwide. The main

*„The date 2 March 2020 is a landmark in the history of financial services in Hungary: exactly at 0:00:00 the central infrastructure, operated by Giro Ltd, was opened to payment service providers*

Mađarske za svakog pružaoca platnih usluga koji ima dozvolu za rad u Mađarskoj;

- ▷ svaki transfer treba da bude obrađen na infrastrukturi instant plaćanja u slučajevima kada
- ▷ instrukcija za transfer se daje na račun klijenta u HUF;
- ▷ iznos ne prelazi 10 miliona HUF (~ 30.000 €);
- ▷ instrukcija za transfer se daje elektronskim putem;
- ▷ instrukcija ne sadrži nikakav definisani datum zaduženja;
- ▷ instrukcija za transfer ne dostavlja se u paketima od strane pravnih lica;
- ▷ definisano vrijeme prenosa je 5 sekundi;
- ▷ sistem nudi opciju zahtjeva za plaćanje od početka;
- ▷ sistem nudi korišćenje sljedećih sekundarnih identifikatora:
- ▷ brojevi mobilnih telefona;
- ▷ e-mail adrese;
- ▷ poreski identifikatori;
- ▷ definisani standard poruke je ISO 20022;
- ▷ sistem radi na osnovu Pravilnika HCT Inst koji je izradio Giro doo.

S obzirom na složenost projekta, oko 3.500 stručnjaka, ne uključujući različite dobavljače i profesionalce za proizvode koji rade u bankama, direktno je učestvovalo u procesu implementacije. Capsys Informatics je bio važan učesnik, budući da je bio u velikoj mjeri uključen u dva najveća implementaciona projekta koja su uključena u nacionalni projekat. Ova dva projekta opsluživala su pet banaka. Obim plaćanja koje ove banke obrađuju čini oko dve trećine mađarskog tržišta, odražavajući važnost projekata kojima upravlja Capsys.

*„Oko 3.500 stručnjaka, ne uključujući različite dobavljače i profesionalce za proizvode koji rade u bankama, direktno je učestvovalo u procesu implementacije*

## HRONIKA PROJEKTA

Za implementaciju projekta ove složenosti, sa više od 30 institucionalnih učesnika, potrebno je vrijeme, iako je kvantifikovanje vrlo teško.

Zvanična izjava Narodne banke izdata je 14. decembra 2016, iako su razgovori u banci započeli već tri godine unaprijed. Odluku je donio jedan od najviših organa banke, Odbor za finansijsku stabilnost, koji je nadgledao cijeli proces implementacije, koji je trebao da bude završen do jula 2019. godine. Jedna od najhrabrijih odluka koju je Narodna banka donijela bila je da se odloži puštanje u rad procesa, dajući više vremena PSP-ima za testiranje i obavezujući ih da odrede dodatni osmomjesečni period testiranja kako bi se omogućilo uspješno pokretanje.

Dva najveća učesnika na strani PSP-a, OTP banka i Takarekinfo, objavili su informacije o svojim odlukama 11. aprila 2018. i 29. januara 2019. Takarekinfo Data Management Ltd, kompanija Takarek grupe, takođe opslužuje Budimpeštansku banku i MKB banku.

Datumi izdavanja informacija takođe pokazuju koliko je vremena bilo potrebno za planiranje i donošenje odluka da bi se postigao efektivni rezultat. Capsys je igrao veliku ulogu u profesionalnom vođenju jednog od najvećih projekata u Mađarskoj. Opseg je bio malo drugačiji, ali posao koji je Capsys obavio služi kao dobra osnova za ovaj rad.

## ĐAVO SE KRIJE U DETALJIMA

Iako može izgledati trivijalno, usluga instant plaćanja je rješenje koje u velikoj mjeri zavisi od tehnologije. Iako su stručnjaci za platne usluge već znali, naravno, kako banke treba da izvrše obračun plaćanja i kako ta plaćanja moraju da se izmire, postojeća tehnologija nije dozvoljavala da se ovi procesi brzo urade. Prava brzina se najprije pojavila u plaćanjima u svijetu kartica, ali ni hardverska ponuda ni tada preovlađujući standard ISO 8353 nisu nudili ono bogatstvo ponude podataka koje bi bilo potrebno za obradu dijela plaćanja u cjelosti. Zanimljivo je da je sektor igara na sreću za sebe otkrila tehnološko rješenje koje je kasnije preuzeo sektor plaćanja kako bi postavio rješenja za instant plaćanje.



Treću godinu zaredom  
dobitnici priznanja  
**NAJBOLJA BANKA  
U CRNOJ GORI**



**NLB Banka**

*„Za regulatora je to bilo pravno pitanje:  
transfer treba da stigne do banke  
korisnika za 5 sekundi, tako da rješenja  
PSP-a moraju zadovoljiti ovo osnovno  
pravilo*

Za prebacivanje stotina, pa čak i, u slučaju nekih sistema, hiljade uplata s jednog računa na drugi svake sekunde potrebna je kombinacija vrlo robusnog hardvera i vrlo detaljnog, dobro nadgledanog softverskog rješenja. Iako je rizik prisutan u svakom rješenju, uplate moraju stići i do korisnika, a sistem to mora osigurati. Instant plaćanja su vrlo osjetljiva na tehnologiju - najmanji kvar ili pogrešna konfiguracija mogu poremetiti transakcije. Vidjeli smo kako je neusklađenost postavki vremenskog ograničenja sistema za slanje i primanje prouzrokovala gubitak poruka i time neuspjeh transakcija. Samo mali dio učesnika među učesnicima mađarskog projekta imao je prethodno iskustvo, ali ono što smo morali naučiti je sljedeće:

Naučena lekcija: svaki mali detalj je važan

### **VRUĆE TEME U MAĐARSKOJ**

Svaki projekat ima niz tema koje, iz ovog ili onog razloga, dobijaju više pažnje od drugih od strane aktera projekta. To je važno i za mađarsku implementaciju. U mnogim slučajevima bilo je nekoliko diskusija koje su se vrtjele oko istih tema koje su bile važne za podizanje svijesti i postizanje konsenzusa (ili barem isto razumijevanje) u vezi sa rješenjem tih problema.

#### **Pitanje velikih transakcija u sekundi (TPS) - koliko transakcija u sekundi?**

Za regulatora je to bilo pravno pitanje: transfer treba da stigne do banke korisnika za 5 sekundi, tako da rješenja PSP-a moraju zadovoljiti ovo osnovno pravilo, te stoga svako mora odlučiti o kapacitetu svojih sistema; velike banke moraju da imaju veliki

kapacitet — stotine TPS — dok za male banke može biti dovoljan niži kapacitet. Za obradu dvije transakcije u minuti, jedan TPS, drugim riječima jedna transakcija u sekundi, koja omogućava 60 transakcija u minuti, čini se prilično dovoljno. Ali šta se dešava ako velika banka pošalje pet transakcija u jednoj sekundi jednoj maloj banci ili ako, iz nekog poslovnog razloga, veliki broj klijenata želi (ili mora) da izvrši plaćanje u istoj banci u isto vreme? Ovo bi, naravno, moglo uzrokovati pad sistema, ali nije bilo propisa o TPS-u za PSP, što bi u nekim slučajevima moglo dovesti do sporijih transakcija. Statistika količine iz sistema poravnanja zasnovanog na serijama ne daje sveobuhvatnu sliku o najvećem opterećenju koje se očekuje za svakog učesnika. Interpolacija sa obima po satu u sekundi nije moguća sa velikom efikasnošću. Ono što je uočeno nakon objavljivanja jasno prikazuje ovaj problem: kada se gledaju 1-minutne količine transakcija, njihovo dijeljenje sa 60 sekundi (izračunavanje prosječnog TPS-a za taj minut), pokazuje otprilike dvije trećine najvećeg TPS-a izmjerenog u istoj minuti. Iskustvo je pokazalo da je strah bio precijenjen, barem do sada.

#### **Da li bi transakcije bile izgubljene?**

Kao što se obično dešava u procesima implementacije, testiranje je počelo rano i postalo je sve važnije. Bilo je vrlo važno zapažanje: neke od poruka, odnosno transakcija, su izgubljene. I Giro i timovi koji su učestvovali u ime banaka izvršili su promjene, modifikacije su ponovo testirane i modifikovane, a rezultat je bio prihvatljivo nizak nivo. Konačni cilj je, naravno, bio nula, jer je tehnologija trebalo da osigura nula izgubljenih transakcija čak i u slučaju



difference is the personalised scope of the project, shown also by the following characteristics defined by the National Bank of Hungary: the use of the instant payment service operated by Giro Ltd is mandated by a National Bank of Hungary decree for every payment service provider licensed in Hungary; each transfer is to be processed on the instant payment infrastructure in cases where

- ▷ the transfer instruction is given to the customer's HUF account;
- ▷ the amount does not exceed HUF 10m (~€30,000);
- ▷ the transfer instruction is given electronically;
- ▷ the instruction does not contain any specified debit date;
- ▷ the transfer instruction is not submitted in batches by a corporate customer;
- ▷ defined transfer time is 5 seconds;
- ▷ the scheme offers the request-to-pay option from the beginning;
- ▷ the scheme offers the use of the following secondary identifiers:
  - ▷ mobile phone numbers;
  - ▷ e-mail addresses;
  - ▷ tax identifiers;
  - ▷ defined message standard is ISO 20022;
  - ▷ the system is being operated on the basis of the HCT Inst Rulebook prepared by Giro Ltd.

In view of the complexity of the project around 3,500 professionals, not including different vendors and product professionals working in the banks, participated directly in the implementation process. Capsys Informatics was an important participant, having been heavily involved in two of the largest implementation projects incorporated into the national project. These two projects served five banks. The volume of payments processed by these banks accounts for about two-thirds of the Hungarian market, reflecting the importance of the projects managed by Capsys.

### THE TIMELINE OF THE PROJECT

To implement a project of this complexity, with more than 30 institutional participants, needs time, though quantifying it is very difficult.

The official declaration of the National Bank was issued on 14 December 2016, though discussions in the bank had already begun three years ahead. The decision was made by one of the highest bodies of the bank, the Financial Stability Board, which oversaw the whole implementation process, scheduled for completion by 1 July 2019. One of the boldest decisions of the National Bank ever was the postponement of the go-live, giving more time to the PSPs to test and obliging them to fix an additional eight-month-long testing period so as to facilitate a successful launch.

The two largest participants on the PSP side, OTP Bank and Takarekinfo, issued information about their decisions on 11 April 2018 and 29 January 2019, respectively. Takarekinfo Data Management Ltd, a company of the Takarek Group, also serves Budapest Bank and MKB Bank.

The dates of issue of information also show how much time was needed for the planning and decision-making to deliver the effective result. Capsys played a major role in the professional management of one of the biggest projects in Hungary. The scopes were slightly different, but the work Capsys accomplished serves as a good basis for this paper.

### THE DEVIL IN THE DETAILS

Although it may appear trivial, immediate payment service is a highly technology-dependent solution. Although payment service professionals already knew, of course, how banks should clear payments and how these payments have to be settled, the existing technology did not allow these processes to run faster. The real speed appeared in payments in the card world first, but neither hardware offerings nor the then prevailing ISO 8583 standard offered that richness of

*„Around 3,500 professionals, not including different vendors and product professionals working in the banks, participated directly in the implementation process*

neočekivanih kvarova. Ovo je pitanje na kojem moramo dalje raditi.

### Potpis transakcije

Zbog relativno kratkog vremenskog okvira za implementaciju, centralna infrastruktura i implementacioni projekti učesnika vođeni su paralelno. Stoga su se neki zahtjevi razvili tokom projekta. Takvo je bilo pravilo da se svaka transakcija potpisuje posebno i elektronski (digitalni potpis). To je izazvalo velike turbulencije među bankama, jer bi bilo teško ispuniti ne regulativu u cjelini već u tom kasnom stanju projekta. U takvom slučaju pokazalo se da je dobra praksa da se učesnicima ostavi neko vrijeme da implementiraju zahtjeve i da se dozvoli interval za testiranje bez njih.

### Grupno plaćanje ili bez grupnog plaćanja?

Trenutno, korporativnim paketima nije dozvoljeno da se obrađuju na sistemu instant plaćanja uopšte. Nakon puštanja u rad korporativnim grupnim plaćanjima uopšte nije bilo dozvoljeno da se obrađuju u sistemu instant plaćanja, ali ovo pravilo nije prvobitno planirano i nije dugo trajalo. (Od 1. septembra i PSP-ovima je dozvoljeno da obrađuju pakete). Pitanje TPS-a o kojem smo ranije govorili je, međutim, još važnije kada se razmatraju grupna plaćanja. Banka će poslati grupna plaćanja sa najvećim kapacitetom, što opet može preopteretiti manju banku. Grupna plaćanja se, naravno, ne kreću trajno u sistemu, ali, na primjer, kada su dani plaćanja poreza, mogli bi uzrokovati sistemske probleme. Rješenje je bilo da se odloži korporativna grupna obrada na ovom sistemu najmanje do 1. septembra 2020., omogućavajući PSP-ima da razviju dalje svoje sisteme.

### Vremensko ograničenje za povjerioce ('AB05')

Sjajni bauk projekta! AB05 je ISO20022 šifra razloga statusa za 'za vremensko ograničenje za povjerioce', što znači da banka primalac nije na vrijeme odgovorila na centralnu infrastrukturu (ili, tačnije, odgovor nije na vrijeme stigao do centralne infrastrukture), a Giro je smatrao da transakcija nije uspjela i vratio ju

je banci pošiljaocu. Smatra se da je to greška banke povjerioca i uzrokuje da banka povjerilac ne izvrši sertifikaciju kada se vidi u velikom broju. 'Veliki' u našem slučaju znači jedna od hiljadu transakcija. Lako je zamisliti kako su projektni timovi pomno pratili testove i kakve su reakcije izazvale uočavanje AB05 u statistici.

Ovo bi mogla biti najgora situacija za svakog ko prenosi novac. Mogućnost zavisi i od toga kako učesnici dijele vrijeme koje imaju među sobom uglavnom da ispune pravilo od 5 sekundi, kao i regulaciju vremena odgovora. Vremensko ograničenje može biti rezultat izgubljene transakcije, kao i rezultat loših pravila. Na kraju se sistem pokazao kao dobar za obradu više od milion transakcija u iznosu od 150 milijardi forinti u prva dva i po dana.

### Izveštaj o usklađivanju

Osnovna karakteristika sistema instant plaćanja je da prirodno dobro funkcioniše. Usklađivanje je ipak dobro sredstvo u rukama učesnika da sve drži pod kontrolom. U početku se činilo da je usklađivanje samo jedan od uobičajenih izvještaja, ali PSP-i su naporno radili kako bi dobro iskoristili ovaj izvještaj. Čak se i izgubljena transakcija može pronaći korišćenjem izvještaja o usklađivanju jer se proizvodi svaki sat. Možda zvuči čudno da se instant plaćanje možda ne traži odmah - ali zbog obavezne prirode instant plaćanja u Mađarskoj, većina kupaca čak ni ne prepoznaje da njihovo plaćanje treba da bude izmireno u roku od 5 sekundi umjesto nekoliko sati kao ranije. Nadalje, banka treba da odluči da li će osoblje upravljati sistemom instant plaćanja 24x7 - što može biti ekstremni faktor troškova u poređenju sa obimima u u periodu niskog opterećenja.

### Pitanje pilot perioda

Prvobitna namjera Narodne banke bila je 'veliki prasak' 1. jula 2019. Sva međunarodna iskustva su pokazala da bi vrijeme bilo prekratko i da su to sami učesnici projekta osjetili. Bilo je značajno lobiranje od strane PSP-a, a Narodna banka je konačno donijela veoma dobru odluku uvođenjem dodatnog, ali obaveznog pilot perioda. Učesnici su obrađivali

data offerings that would have been needed to process a piece of payment in its entirety. Interestingly, it was the gaming industry that discovered for itself the technology solution that was later taken over by the payments industry to set up immediate payment solutions.

To move hundreds and even, in the case of some systems, thousands of payments from one account to the other every second needs the combination of a very robust hardware and a very detailed, well-monitored software solution. Although risk is present in any solution, payments have to reach the beneficiary too, and the system must ensure this. Immediate payments are very sensitive to technology — the smallest glitch or misconfiguration can disrupt transactions. We have seen how misalignment of the sending and receiving systems' timeout settings caused messages to be lost and thereby transactions to fail. Only a fraction of the participants among the Hungarian project participants had had prior experience, but what we had to learn was the following:

Lesson learnt: every little detail counts

### **HOT TOPICS IN HUNGARY**

Every project has a number of topics that, for one reason or another, receive more attention than others by the project stakeholders. This was true of the Hungarian implementation too. In many cases there were several discussions revolving around the same topics that were important in order to raise awareness and reach a consensus (or at least have the same understanding) regarding the solution to those problems.

#### **The great transactions per second (TPS) question – how many transactions per second?**

For the regulator it was a legal question: a transfer is to reach the beneficiary bank in 5 seconds, so the

solutions of the PSPs have to meet this basic rule, and therefore everyone has to decide the capacity of their own systems; large banks must have large capacity — hundreds of TPS — while for small banks a lower capacity might be enough. To process two transactions per minute, one TPS, in other words one transaction per second, allowing 60 transactions per minute, seems to be quite enough. But what happens if a large bank sends five transactions in one single second to one small bank or if, for some business reason, a large number of customers want to (or have to) make payments to the same bank at the same time? This might, of course, cause a system crash, but there was no regulation on the TPS for the PSPs, which might result in slower transactions in some cases. Volume statistics from the batch-based settlement system do not give a comprehensive picture about peak load to be expected for each participant. Interpolation from the hourly volumes to the second is not possible with high efficiency. What has been seen after go-live depicts this problem clearly: when looking at 1-minute transaction volumes, dividing it by 60 seconds (calculating the average TPS for that minute), shows roughly two-thirds of the peak TPS measured in the same minute. Experience has proven that the fear was overestimated, until now at least.

#### **Would transactions be lost?**

As usually happens in implementation processes, testing started early and became increasingly important. There was a very important observation: some of the messages, meaning transactions, were lost. Both Giro and the participating teams on behalf of the banks made changes, the modifications were retested and remodified, and the result was an acceptably low level. The final target was zero, of course, as the technology should have assured zero transactions lost even in the

*„For the regulator it was a legal question: a transfer is to reach the beneficiary bank in 5 seconds, so the solutions of the PSPs have to meet this basic rule*

*„Razvoj platnih sistema je 1.000 godina dug proces, tako da se neće završiti novim uslugama koje smo predstavili. Mi, međutim, smatramo da će sistem koji smo predstavili zajedno sa onima koji su nagovešteni u zaključku uspešno služiti dugi niz godina*

strahovito veliki broj transakcija, ali koristeći samo nekoliko tehničkih naloga, a ne prave. Uočeni su, naravno, mnogi problemi, ali korišćenje naloga koji nisu bili stvarni kasnije je izazvalo neke druge probleme. Pokretanje se, ipak, pokazalo uspešnim!

Naučena lekcija: konsultantske usluge na nivou zemlje za usklađivanje

### IDEALNI SCENARIO

Svi planiraju da imaju besprekoran normalan način razvoja i implementacije, 'idealni scenario'. Scenarije izuzetaka (greške) teško je i zamisliti, jer je ova vrsta scenarija mnogo komplikovanija. Teško je razmišljati o tome u fazi projektovanja, a možda i nije potrebno. Testiranje je dobar period da se dobiju odgovori na pitanja koja se nameću. Koja je bila razlika između tumačenja Gira i PSP-a? Koji standard je dobro shvaćen, a koji ne? Tipičan problem je da bi neispravnu poruku centralni sistem odbacio čak i kada bi poruka bila ispravna sa poslovne tačke gledišta, ali je imala neke tehničke greške. Odgovor je, ipak, odbijanje, ali tehničke vrste. Ako se sistem banke nije pripremio za obradu tehničkih odbacivanja jer je prvi zakazan 'idealni scenario', ova prva odbacivanja biće veoma teško otkriti i ispraviti. Prema tome, tumačenja treba da budu slična na obje strane, odnosno i banaka i pružaoca centralnog sistema. Za ovo je potrebna dobra saradnja, a period testiranja pruža priliku da se isprave i ovi propusti u tumačenju. Dakle, niko ne može reći prvog dana: 'Poslao sam poruku, ali nisam dobio odgovor.'

Naučena lekcija: pripremite se za izuzetke prvog dana; to će vam uštedjeti vrijeme na analiziranju problema

### 'DUGOROČNO SVI SMO MRTVI'

Ova fraza je ponovljena mnogo puta u toku projekta. Prilikom dizajniranja sistema jedan od glavnih ciljeva je da se dizajnira sistem koji je otporan na vrijeme ili budućnost, i iz tog razloga tim dizajnera sistema bi možda želio da se uključi u rješavanje svakog ažurnog detalja. Ovaj pristup, međutim, može uzrokovati sljedeće probleme:

- ▷ Faza dizajna može potrajati predugo, a fokus može biti odvrćen sa detalja kritičnih za usklađenost.
- ▷ Rezultirajući sistem možda neće biti efikasan - možemo završiti dizajnom funkcionalnosti, koja se neće ni koristiti godinama.
- ▷ Troškovi mogu naglo porasti.
- ▷ Neki od novih proizvoda koji postoje u svijesti dizajnera ne postoje među uslugama banke, među njihovim procesima, čija je podrška, ionako, zadatak sistema.

Projekat, dakle, treba podijeliti na dva dijela, od kojih je prvi projekat usklađenosti koji mora odgovarati postojećim stvarnim potrebama, pravilima i rokovima, dok je drugi inovativni projekat koji može sadržati i snove i nema tako rigidne rokove. To ne znači da projekat usklađenosti ne treba da proizvede jasan dizajn otporan na budućnost. Ali specifični zahtjevi usklađenosti treba da prevladaju nad „dugoročnim rokom“.

Naučena lekcija: imajte dva sloja projekta - usklađenost i inovaciju

case of unexpected glitches. This is an issue on which we have to work further.

### **Transaction signature**

Owing to the relatively short time frame for implementation, the central infrastructure and participants' implementation projects were run parallel. Therefore, some requirements unfolded during the project. Such was the rule to sign every transaction separately and electronically (digital signature). This caused much turbulence among the banks as it would have been difficult to meet not the regulation as a whole but in that late state of the project. In such a case it turned out to be a good practice to allow some time for the participants to implement the requirements and allow an interval to test without them.

### **Batch or no batch?**

Currently, corporate batches are not allowed to be processed on the immediate payment system at all. Upon go-live corporate batches were not allowed to be processed on the immediate payment system at all but this rule was not planned originally and didn't remain for long. (As from September 1 PSPs are allowed to process batches as well). The TPS question discussed earlier, however, is even more critical when considering batch payments. A bank will send batches with its highest capacity, which again may overload a smaller bank. Batches do not, of course, move permanently on the system but, for example on tax days, they could cause systematic problems. The solution was to postpone corporate batch processing on this system until at least 1 September 2020, allowing PSPs to develop their systems further.

### **Creditor timeout ('AB05')**

The great bogeyman of the project! AB05 is the ISO20022 status reason code for 'creditor timeout', meaning that the receiving bank did not respond in time to the central infrastructure (or, to be more precise, the response did not reach the central infrastructure in time), and Giro considered the transaction to have failed and returned it to the sending bank. It is

considered to be the creditor bank's fault and causes the creditor bank to fail certification when seen in large numbers. 'Large' in our case means one in a thousand transactions. It is easy to imagine how project teams were observing tests closely and what reactions were triggered by seeing AB05 in the statistics.

This might be the worst situation for anyone transferring money. The possibility depends also on how the participants share the time they have among themselves mainly to meet the 5-second rule and also the response time regulation. A timeout can be the result of a lost transaction as well as the result of the bad rules. Eventually, the system proved to be good for processing more than 1 million transactions in the volume of HUF 150 billion for the first two and a half days.

### **Reconciliation report**

A basic characteristic of an instant payment system is that it works naturally well. Reconciliation is nevertheless a good tool in the hands of the participants to keep everything under control. In the beginning, reconciliation seemed to be just one of the usual reports, but the PSPs worked hard to use this very report well. Even a lost transaction can be found by using the reconciliation report as it is produced every hour. It may sound strange that an immediate payment may not be searched for immediately — but owing to the mandatory nature of immediate payments in Hungary, most customers do not even recognise that their payment is supposed to be settled within 5 seconds instead of a few hours as before. Furthermore, it is up to a bank's own decision whether to have staff operate the immediate payment system 24 × 7 — which may be an extreme cost factor compared with the volumes in off-peak hours.

### **The pilot question**

The original intention of the National Bank was a 'big bang' on 1 July 2019. All international experiences showed that the time would have been too short and that project participants themselves felt it. There was considerable lobbying on the part of the PSPs, and, finally, the National Bank took a very good decision

## ISTO, ISTO, ALI DRUGAČIJE

Tokom perioda implementacije glavno zapažanje bilo je sledeće: iako se činilo da su korišćeni standardi dobro definisani, situacija se pokazala mnogo komplikovanijom. Postoji lanac u procesu implementacije koji počinje od proizvodnog tima dobavljača nakon čega sledi projektni tim dobavljača, koji čini testiranje i kontrole u skladu sa dokumentacijom centralnog sistema. Oni zauzvrat implementiraju proizvod u sistem klijenta, gdje bi se potom testirao u okruženju koristeći vlastiti hardver. Završna faza je okruženje integrisano sa centralnim sistemom, gde bi razlike konačno bile razotkrivene. Nažalost, ovo je najskuplji način - bilo kakve razlike moraju biti saopštene programeru dobavljača, a sve popravke prolaze kroz ovaj dugi lanac kako bi bile testirane. Ako programer dobavljača ima pri ruci u ranoj fazi već uzorke ili simulatore za svaku poruku koja odgovara detaljima stvarnog sistema do najdubljih detalja, proces razvoja i implementacije je mnogo efikasniji i brži. Tehnička dokumentacija je vrlo važna, ali nema sve detalje a, kao što znamo, đavo se nalazi u detaljima. Mnogi od ovih 'đavola' su primijećeni tokom ovih implementacija - razlike u razumijevanju standarda ISO 20022, SOAP, XML i TCP uzrokovale su probleme u procesu obrade.

Naučena lekcija: Centralna infrastruktura treba da obezbijedi uzorke ili simulatore za svaku poruku do najsitnijih detalja

## INFORMACIJE O PROGRAMERU U ODNOSU NA INFORMACIJE O DOZNACI

Implementacija projekta uvijek proizvede i smiješne trenutke. Da bi podigli raspoloženje, neki od kolega su pisali smiješne primjedbe - naravno, samo u rubrici 'primjedbe'. Iako do skandala nije došlo, očigledno je uslijedilo neophodno pokrivanje ...ali niko nije otpušten!

Naučena lekcija: Ne dozvolite da vaš programer popunjava polje sa informacijama o doznakama...

## KOLIČINA I VISOKA OBRADA TPS

O ovoj temi se već raspravljalo u odjeljku 'Vruće teme u Mađarskoj'. Ipak, važno je vratiti se na to

jer iskustvo projekta pokazuje da je to veoma važno pitanje. Glavna karakteristika mađarskog projekta, činjenica da su svi učestvovali u njemu, čini ovu temu još važnijom.

Giro je odlučio da ima centralnu infrastrukturu kapaciteta 500 TPS, ali nije bilo normi ili zahtjeva u vezi sa kapacitetom učešća PSP sistema. U slučaju sistema za obradu kartica, lako je odrediti potreban kapacitet ako se poveže sa brojem izdatih kartica i brojem kupaca.

Ako se, pak, planira potpuno novi sistem instant plaćanja koji se umnogome razlikuje od postojećih, teško je odlučiti koji kapacitet treba da razvije, odnosno, naravno, koliko novca PSP mora da uloži. Banka može upravljati sa samo nekoliko računa, ali s obzirom da ima korporativne klijente, oni mogu primiti veliki broj transfera, što zahtijeva visok TPS kapacitet (tj. javna komunalna preduzeća). Takođe je teško reći kolika će biti koncentracija transakcija, što će planiranje učiniti još nesigurnijim. Može se, međutim, reći da velike greške nisu napravljene i da se neke korekcije mogu napraviti i kasnije.

Naučena lekcija: kvota se mora dogovoriti i neka vrsta mehanizma razdvajanja za grupna plaćanja mora biti implementirana

## VIRENJE

Sa jedne tačke gledišta, mađarski projekat implementacije instant plaćanja bio je masovni projekat jer je više od 30 PSP trebalo da implementira sistem u istom prilično kratkom periodu. U zemlji postoje veoma dobri pružaoci IT usluga za banke, ali je bilo samo nekoliko kompanija koje su imale tu sreću da budu uključene u dosadašnju implementaciju sistema instant plaćanja i jedva jedan profesionalac koji bi imao ovakvu vrstu znanja. Iz tog razloga transfer znanja je bio nezamjenjiv dio projekta.

Prema stečenim iskustvima, dobra 'tehnologija' za prenošenje znanja bilo je varanje – što znači da iskusni profesionalac sjedi za kompjuterom i radi posao, dok mu ostale kolege stoje iza ramena i prate ga na ekranu – protežući svoje vratove vireći formirajući žirafu.

Sljedeći korak će biti virenje koje će napraviti iskusnog kolegu da kontroliše novog.

by introducing an additional but mandatory pilot period. Participants processed a tremendously large number of transactions, but using only a few technical accounts, not real ones. Many problems were identified, of course, but using accounts that were not real caused some other problems later. The launch, nevertheless, proved to be successful!

Lesson learnt: country-level consultancy to align

### HAPPY(ISH) PATH

Everyone plans to have a faultless normal way of development and implementation, the ‘happy path’. Exception (error) paths are hard to even imagine, as this kind of path is much more complicated. It is hard to think about this in the design phase, and it might not even be necessary. Testing is a good period to get answers to the questions that arise. What was the difference between the interpretations of Giro and the PSPs? Which standard was understood well and which not? It is a typical problem that a faulty message would be rejected by the central system even if the message were correct from the business point of view but had some technical failures. The answer, nevertheless, is rejection, but of a technical kind. If the bank’s system did not prepare for processing technical rejects because ‘happy path’ was scheduled first, these first rejects will be very hard to detect and correct. The interpretations, therefore, should be similar on both sides, that is, both on that of the banks and on that of the central system provider. This needs good cooperation, and the testing period offers the opportunity to correct these interpretational failures as well. So no one can say on day 1, ‘I have sent the message but did not get an answer.’

Lesson learnt: prepare for exceptions on day one; it will save you time analysing issues

### ‘IN THE LONG RUN WE ARE ALL DEAD’

This phrase was repeated many times in the course of the project. When designing a system one of the major targets is to design a time-proof or future-proof one, and for this reason the system-designer team might wish to incorporate into the solution every up-to-date detail. This approach, however, might cause the following problems:

- ▷ The design phase may take too long, and the focus may be taken away from the details critical for compliance.
- ▷ The resulting system may not be efficient — we may end up designing functionality, which will not even be used for many years.
- ▷ Costs may skyrocket.
- ▷ Some of the new products that exist in the designer’s mind do not exist among the bank’s services, among their processes, the support of which is, anyhow, the system’s task.

The project, therefore, is to be divided into two parts, the first of which is a compliance project that must correspond to the existing real needs, rules and deadlines, while the second is an innovation project that can contain the dreams as well and does not have such rigid deadlines. This does not mean that the compliance project should not produce a clear, future-proof design. But compliance-specific requirements should prevail over the ‘long run’.

Lesson learnt: have two project layers — compliance and innovation

*„Development of payment systems is a 1,000-year long process, so it will not end with new services that we have presented. We, however, think that the system we presented together with those hinted at in the conclusion will serve successfully for many years to come*

Naučena lekcija: široko rasprostranjen prenos znanja unutar projekat je ključan od prvog dana

### KOLIKO JE TESTIRANJA DOVOLJNO?

Prilikom osmišljavanja nacionalnog projekta, Giro je obezbijedio dva mjeseca za test povezivanja i pet mjeseci za sertifikacioni test, što je ukupno sedam mjeseci za testiranje. U slučaju velike bankarske infrastrukture koja se razvija, potrebno je sprovesti sljedeće testove:

- ▷ Jedinični test — treba da ga napravi dobavljačev programer u sopstvenom okruženju;
- ▷ Integracioni test — treba da ga uradi dobavljač u sopstvenom okruženju;
- ▷ Dimni test — vrši se u okruženju banke radi kontrole isporuke odvojenih kutija;
- ▷ Test povezanosti — treba da se napravi u okruženju banke kako bi se kontrolisalo da li odvojeni boksovi mogu međusobno da sarađuju;
- ▷ Test integracije sistema — sveobuhvatan test za kontrolu da li procesi prolaze kroz cijelo rješenje;
- ▷ Testiranje prihvatanja korisnika — detaljno testiranje koje je izvršila banka radi kontrole ispravnog rada svake kombinacije funkcija i podataka;
- ▷ Test opterećenja — testiranje koje simulira visoku izdržljivost;
- ▷ Testiranje otpornosti na stres — testiranje koje simulira izuzetno visoku izdržljivost;
- ▷ Testiranje oporavka od kraha, testiraje visoke dostupnosti— testiranje za simulaciju vanredne situacije.

Prethodne faze ispitivanja se ponekad moraju izvoditi u ciklusima koji se ponavljaju, kao u slučaju neispravnog testa opterećenja, odnosno, svi prethodni testovi se ponavljaju nakon korekcije kako bi se testirala ispravnost rješenja. Ova vrsta ponovljeno testiranje uzrokuje mnoge probleme ako je dostupno samo jedno testno okruženje centralnog sistema, tako da u nekim periodima može doći do velike 'gužve' u ovom okruženju. Osnovno je pravilo struke da se ne testira na živom okruženju, pa je najbolje rješenje da centralna infrastruktura podržava simulator ne jednog već nekoliko testnih okruženja.

Najbolje rješenje je pronađeno kasno u projektu: Narodna banka je prepoznala potrebu i omogućila dodatnih osam mjeseci za testiranje uz prethodnih sedam mjeseci. Projekt je imao velike koristi od ovog testnog perioda jer je pomogao da se ojača stabilnost svih sistema učesnika kao i centralnu infrastrukturu.

Naučena lekcija: potrebno je puno testiranja (9-plus mjeseci), ali kako ne možete testirati stvarni život, treba razmotriti mogućnost pilot projekta

### NJIHOVO OMILJENI SPORT JE BRZO DO ZAKLJUČKA

Rješenje za instant plaćanje može biti veoma složen sistem, posebno ako se kombinuje sa 'Otvorenim bankarstvom' (Direktiva o platnim uslugama II (PSD2) ili ako više učesnika koristi zajedničko rješenje. Takve implementacije će imati mnogo komponenti koje su povezane i izložene jedna drugoj.

Simptom u jednoj komponenti sistema može biti uzrokovan problemom u drugoj komponenti. Često je analiza osnovnog uzroka ometena ishitrenim zaključcima zasnovanim na nedovoljnim informacijama. Tipičan primjer je kada dva sistema interaguju jedan s drugim, sistem A šalje zahtjev sistemu B i čeka odgovor koji ne stiže. Navesti da 'sistem B nije odgovorio' je pogrešan zaključak — u stvari, može biti više razloga: zahtjev je izgubljen na putu od A do B, zahtjev je bio netačan i B nije mogao da ga obradi, B je poslao odgovor ali se izgubio na putu, stigao je odgovor, ali ga A nije mogao obraditi, itd. Traganje za osnovnim uzrokom na osnovu takvih zaključaka može se pokazati kao potpuno pogrešno, čak i ometajuće.

Naučena lekcija: efikasna analiza problema zahtijeva oštru logiku na osnovu dokaza

### USAGLAŠAVANJE

Na početku projekta pretpostavljalo se da je usaglašavanje formalnost koja je neophodna samo da bi se označile stavke i vidjelo da li je sve u redu. Realnost je, međutim, bila da je naglasak stavljen na rukovanju velikim količinama. Pilot projekat je bio ispravno fokusiran na testove opterećenja, tako da su učesnici i centralni sistem dokazano sposobni da podnose očekivano opterećenje. Ali testovi opterećenja ne



## SAME, SAME, BUT DIFFERENT

A major observation was made during the implementation period: although it seemed that standards used were well defined, the situation turned out to be much more complicated. There is a chain in the implementation process that starts with the product team of the vendor followed by the vendor's project team, which makes testing and controls compliant with the central system's documentation. They in turn implement the product into the client's system, where it would then be tested in a landing environment using their own hardware. The final phase is the environment integrated with the central system, where the differences would finally be unravelled. Unfortunately, this is the most expensive way — any differences have to be communicated back to the vendor's developer, and any fixes go through this long chain to be tested. If the vendor's developer has at hand at an early stage already samples or simulators for every message matching the details of the real system to the deepest details, the development and implementation process is much more effective and quicker. Technical documentations are very important but do not have all the details — and, as we know, the devil is in the details. A lot of these 'devils' were noticed during these implementations — differences in the understanding of ISO 20022, SOAP, XML and TCP standards were causing processing issues.

Lesson learnt: Central infrastructure should provide samples or simulators for every message to the minutest detail

## DEVELOPER VERSUS REMITTANCE INFORMATION

A project implementation always produces funny moments as well. To lift the mood some of the colleagues wrote funny remarks — of course, only in the 'remarks' column. Although no scandal occurred, the necessary carpeting obviously followed...but no one was dismissed!

Lesson learnt: do not let your developer populate the remittance-info field...

## BATCH AND HIGH TPS PROCESSING

This topic has already been discussed in the 'Hot Topics in Hungary' section. It is, nevertheless, important to

return to it as project experience shows it is a very important question. The major feature of the Hungarian project, the fact that everyone participated in it, makes this topic even more important.

Giro determined to have a central infrastructure with a capacity of 500 TPS, but there were no norms or requirement concerning the capacity of participating PSPs' systems. In the case of a card processing system it is easy to determine the necessary capacity if one relates it to the number of cards issued and the number of acquirers.

If, on the other hand, a completely new immediate payment system is planned that is very different from the existing ones, it is hard to decide what capacity one has to develop, meaning, of course, how much money the PSP has to invest. A bank can manage only a few accounts, but having corporate clients, they can receive a large number of transfers, necessitating a high TPS capacity (ie public utility companies). It is also hard to say how big the transaction concentration will be, making planning even more insecure. It can be said, however, that big mistakes have not been made and that some adjustments can also be made later.

Lesson learnt: quota has to be agreed, and some kind of separation mechanism for batch payments has to be implemented

## GIRAFFING

From one point of view the Hungarian immediate payment implementation project was a mass project as more than 30 PSPs were to implement the system in the same rather short period. There are some very good IT service providers for banks in the country, but there were only a few companies that were fortunate enough to be involved in previous immediate payments system implementation and hardly a single professionals to have this type of knowledge. For this reason knowledge transfer was an indispensable part of the project.

According to the experiences gained a good 'technology' for knowledge transfer was giraffing — meaning that the experienced professional is sitting at the computer and doing the work, while his other colleagues are standing behind watching over his shoulder and following him on the screen — stretching their necks



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forming a giraffe. The next step will be giraffing made by the experienced colleague to control the new one.

Lesson learnt: widespread knowledge transfer within the project is key from day one

### HOW MUCH TESTING IS ENOUGH?

When designing the national project, Giro provided for two months for the connectivity test and five months for the certification test, making for a total of seven months for testing. In the case of a major bank infrastructure being developed, the following tests are to be carried through:

- ▷ Unit Test — to be made by the vendor's developer on their own environment;
- ▷ Integration Test — to be made by the vendor on their own environment;
- ▷ Smoke Test — to be made on the bank's environment to control delivery of the separate boxes;
- ▷ Connectivity Test — to be made on the bank's environment to control whether separate boxes can cooperate with each other;
- ▷ System Integration Test — end-to-end test to control whether processes go through the entire solution;
- ▷ User Acceptance Test — detail testing made by the bank to control the correct operation of every function and data combination;
- ▷ Load Test — testing simulating high endurance;
- ▷ Stress Test — testing simulating extremely high endurance;
- ▷ Disaster Recovery Test, High Availability Test — testing to simulate emergency situation.

The foregoing test phases are sometimes to be made in recurring cycles, as in the case of a faulty load test, that is, all prior tests are to be repeated after correction to test the correctness of the solution. This kind of repeat testing causes many problems if only one test environment of the central system is available, so in some periods there may be a big 'crowd' in this environment. It is a basic rule of the profession not to test on a live environment, so the best solution is that the central infrastructure support a simulator of not one but several test environments.

The best solution was arrived at late into the project: the National Bank recognised the need and allowed

an additional eight months for testing in addition to the prior seven months. The project benefited greatly from this test period as it helped to strengthen the stability of all participants' system as well as the central infrastructure.

Lesson learnt: a lot of testing is needed (9-plus months), but as you cannot test real life, a ramp-up pilot should be considered

### THEIR FAVOURITE SPORT IS JUMPING TO CONCLUSIONS

An instant payment solution may be a highly complex system, especially if combined with 'Open Banking' (Payment Services Directive II [PSD2]) or if multiple participants are using a shared solution. Such implementations will have many components that are linked and exposed to one other.

A symptom in one system component may be caused by a problem in another component. Often, root cause analysis is hindered by hasty conclusions based on insufficient information. A typical example is when two systems interact with each other, system A sending a request to system B and waiting for a response that does not arrive. Stating that 'system B did not respond' is an incorrect conclusion — in fact, there could be multiple reasons: the request was lost on the way from A to B, the request was incorrect and B could not process it, B sent a response but it was lost on the way, the response arrived but A could not process it, etc. Searching for the root cause based on such conclusions may prove to be completely misleading, even disruptive.

Lesson learnt: efficient analysis of a problem requires sharp logic based on evidence

### RECONCILIATION

At the beginning of the project it was assumed that reconciliation was a formality that was necessary only in order to tick off items and see whether everything was in order. The reality, however, was that the emphasis was placed on large volume handling. The pilot correctly focused on load tests so that the participants and central system were proven to be able to handle the load expected. But load tests cannot expect 100

moгу očekivati stopu uspješnosti od 100 posto – dopuštanje niskog procenta pogrešnih transakcija ne predstavlja veliki rizik za buduće operacije u stvarnom životu. Ali tih nekoliko propuštenih transakcija moglo bi pokazati posljedičnu grešku u obradi koja ostaje neprimijećena jer test ispunjava kriterijume uspjeha. Usaglašavanje se, međutim, pokazalo veoma važnim jer je u toku testova trebalo kontrolisati i analizirati veoma velike količine podataka. Učesnici žele da vide rezultate svojih testova odmah nakon toga, kako bi preduzeli nešto prije sljedećeg testa. Testovi za sertifikaciju fokusiraju se na usklađenost sa centralnim sistemom, ali rezultati 'end-to-end' (od elektronskog kanala do sistema upravljanja računima) su podjednako važni. Isti alat se može koristiti kasnije, nakon puštanja u rad, za lociranje problema u realnom okruženju.

Naučena lekcija: da bi se podržalo destiranje i poslovanje, treba napraviti alat za usaglašavanje

### **NULA ZASTOJA – POTREBNO JE VRIJEME**

24x7 dostupnost je jedna od osnovnih karakteristika savremenih sistema instant plaćanja. Pored tehnika 'visoke dostupnosti' (redundancije na više geolokacija) ovo zahtijeva trajni rad, omogućavajući operaterima da nadograde svoje sisteme bez ikakvog zastoja, to jest, sa 'nula zastoja'. Ovaj tip nadogradnje ne samo da zahtijeva veoma komplikovanu arhitekturu, već je i skup i stoga treba da bude veoma pažljivo organizovan. Iz tog razloga postizanje rješenja bez zastoja traje sedmicama, a u nekim slučajevima i mjesecima. Važno je imati za cilj nula zastoja, i u većini slučajeva to se može postići, ali to dolazi s troškom.

Postoje periodi kada je faktor opterećenja manji, pa bi se elementi sistema čak mogli zaustaviti na nekoliko sekundi bez većeg prigovora klijenta. Nadogradnje tokom perioda malog prometa preporučljivo je i iz sigurnosnih razloga. Čak i sistemi sa najvećim opterećenjem imaju periode kada je promet tako nizak da se može pokrenuti upozorenje zbog nedostatka transakcija na mnogo minuta - i to se zaista dogodilo!

Naučena lekcija: ispunjavanje zahtjeva zahtijeva mnogo dizajna i testiranja, uključujući razmatranje faktora troškova i koristi

### **ZAKLJUČCI**

Prethodni primjeri pokazuju da je implementacija sistema instant plaćanja zamoran posao. Svaki detalj mora biti na svom mjestu, jer čak i najmanje greške mogu uzrokovati dosadne probleme u obliku izgubljenih transakcija. Sistem mora postojano nositi velike količine transakcija s vrlo malom stopom grešaka. Složenost projekta u zemlji zahtijeva više osiguranja kvaliteta (testiranje) nego uobičajeni IT projekti. Rješenje treba da bude dokaz budućnosti, ali takođe mora da ispunjava sve trenutne zahtjeve. U današnjem digitalnom dobu korisnici žele i navikli su se na pristup uslugama 24x7, što zvuči kao prirodan zahtjev, ali u praksi podrazumijeva dodatno opterećenje u smislu implementacije i operativnih napora.

Jedna od najvažnijih lekcija koje treba naučiti iz mađarskog projekta je da potpuna dostupnost klijenta nije san, već rezultat regulatorne odluke. Mađarske banke su daleko od toga da su najrazvijenije u Evropi sa tehnološkog ili poslovnog gledišta, ali su bile uspješni u upravljanju projektom. Mislimo da je ovo zaista lekcija da velike evropske banke koje predlažu Evropsku inicijativu plaćanja i organizacije koje ih podržavaju, poput Evropske komisije i Evropske centralne banke European Central Bank, treba uzeti u obzir.

Ostavljeni su zadaci i za mađarskog regulatora i banke. Zemlja, iako mala, uveliko je povezana sa Evropskom unijom i drugim zemljama svijeta. Ova međupovezanost cjelokupnog ekonomskog života ogleda se u interoperabilnosti platnih usluga, odnosno, platni sistem zemlje denominovan u HUF treba da bude povezan sa bilo kojim od dva panevropska platna sistema. Kako će RT1 kojim upravlja EBA kliring i TIPS ECB najvjerovatnije postići interoperabilnost do kraja ovog ljeta, to je bez praktične posledice koje će odabrati mađarska bankarska zajednica zajedno sa SWIFT gpi samo da bi imali konekciju i sa drugim dijelovima svijeta.

Razvoj platnih sistema je 1.000 godina dug proces, tako da se neće završiti novim uslugama koje smo predstavili. Mi, međutim, smatramo da će sistem koji smo predstavili zajedno sa onima koji su nagovešteni u zaključku uspešno služiti dugi niz godina.

per cent success rate — allowing a low percentage of erroneous transactions does not impose a major risk for the future real-life operation. But those few missed transactions could show a consequent error in the processing that goes unnoticed as the test met the success criteria. Reconciliation, however, turned out to be very important as very large data volumes were to be controlled and analysed in the course of the tests. Participants want to see the result of their tests immediately afterwards, so as to take action before the next test. Certification tests focus on compliance with the central system, but ‘end-to-end’ (from electronic channel to account management system) results are equally important. The same tool can be used later, after go-live, to locate problems in the live environment.

Lesson learnt: to support testing and operation a reconciliation tool should be built

### **ZERO DOWNTIME — TAKES TIME**

24 × 7 availability is one of the basic characteristics of modern immediate payments systems. On top of ‘high availability’ techniques (redundancies across multiple geolocations) this necessitates permanent operation, allowing operators to upgrade their systems without any kind of stoppage, that is, with ‘zero downtime’. This type of upgrade not only requires a very complicated architecture but is also expensive and therefore needs to be organised very carefully. For this reason achieving zero downtime solution takes weeks and, in some cases, even months. It is important to aim at zero downtime, and in most cases it can be achieved, but it comes with a cost. There are periods when the load factor is lower and thus elements of the system could even be stopped for some seconds without resulting in any major client complaint. Doing upgrades during a low traffic period is advisable on a security basis too. Even systems with the highest loads have periods when the traffic is so low that an alert may be raised for lack of transactions for many minutes — and this actually did happen!

Lesson learnt: meeting requirements takes a lot of designing and testing, including a consideration of the cost-benefit factor

### **CONCLUSIONS**

The preceding examples show that the implementation of an immediate payment system is tedious work. Every detail must be in place, as even the smallest errors can cause annoying problems in the form of lost transactions. The system must bear high transaction volumes steadily with a very small error rate. The complexity of a country project requires more quality assurance (testing) than the usual IT projects. The solution should be future proof but must also meet all current requirements. In today’s digital age customers want and have got used to accessing services 24 × 7, which sounds like a natural requirement but in practice implies an additional burden in terms of implementation and operation efforts.

One of the most important lessons to learn from the Hungarian project is that a full client reachability is not a dream but the result of a regulatory decision. Hungarian banks are far from being the most developed ones in Europe whether from the technological or from the business point of view, but they were successful in managing the project. We think that this is really a lesson that large European banks proposing European Payments Initiative and organisations supporting them, such as the European Commission and the European Central Bank, have to take into consideration.

There are tasks left for the Hungarian regulator and banks as well. The country, though small, is linked extensively to the European Union and other countries of the world. This interconnectivity of the whole economic life is to be reflected in the interoperability of payment services, that is, the country’s HUF-denominated payment system is to be connected to any of the two pan-European payment systems. As the EBA Clearing operated RT1 and ECB’s TIPS are most likely to reach interoperability by the end of this summer, it is of no practical consequence which will be chosen by the Hungarian banking community along with SWIFT gpi just to have the connectivity to other parts of the world as well.

Development of payment systems is a 1,000-year long process, so it will not end with new services that we have presented. We, however, think that the system we presented together with those hinted at in the conclusion will serve successfully for many years to come.

# Pravilima o otvorenom bankarstvu trebaju „novi planovi za budućnost“

Glavna izvršna direktorka Udruženja banaka Australije (ABA) Ana Blaj, rekla je da je „vrijeme da se vratimo planiranju“ kada su u pitanju pravila o otvorenom bankarstvu u zemlji.

Blaj je kazala da je njihovo istraživanje pokazalo da je, četiri godine nakon implementacije australijskih pravila o otvorenom bankarstvu - Pravo na podatke o potrošačima (CDR) koristilo je samo 0,31% klijenata banke.

Strateški pregled uvođenja CDR-a, koje je sproveo Accenture, takođe je otkrio da je više od 50% aranžmana o razmjeni podataka prekinuto ili je dozvoljeno da istekne 2023. godine, navodi se u saopštenju ABA.

CDR je postao dostupan klijentima velikih banaka u julu 2020., a onima drugih banaka u julu 2021.

„Uprkos najboljim naporima vlade, regulatora i industrije, ovaj pregled jasno pokazuje da CDR nije realizovao svoj potencijal. Australijanci su s entuzijazmom prihvatili digitalne inovacije u bankarstvu kao što su mobilni novčanici i PayID, međutim, usvajanje CDR-a je bilo relativno nisko. Vrijeme je da se vratimo na planiranje, Postojeći CDR režim ne daje rezultate za klijente niti povećava konkurenciju i potreban je novi plan“, rekla je Blaj.

*„Četiri godine nakon implementacije australijskih pravila o otvorenom bankarstvu - Pravo na podatke o potrošačima (CDR) koristilo je samo 0,31% klijenata banke*

Pregledom je utvrđeno da je bankarski sektor uložilo oko 1,5 milijardi australijskih dolara (oko 1 milijardu dolara) u CDR od 2018. godine, da je vlada takođe napravila „značajna“ ulaganja u program i da su druge digitalne inovacije u bankarstvu imale „materijalno veće“ stope korišćenja u prve tri ili četiri godine nakon njihovog pokretanja.

Takođe je utvrđeno da CDR negativno utiče na manje banke i njihovu sposobnost da budu konkurentne jer imaju neproporcionalno veće troškove usklađenosti u odnosu na velike banke i ovi troškovi ih prisiljavaju na kompromise o investicijama koji dovode do toga da se drugim projektima daje manji prioritet.

Majkl Lorens, glavni izvršni direktor Udruženja banaka u vlasništvu klijenata (COBA), naveo je u saopštenju da banke u vlasništvu klijenata, njihovi klijenti i konkurencija na tržištu nisu imali mnogo koristi od 100 miliona australijskih dolara koje su ove banke uložile u CDR.

„Prije nego što manje banke odvoje više resursa, tražimo jasnu mapu puta kako bismo osigurali da CDR ispuni svoju prvobitnu namjeru da poboljša konkurenciju. Napredak bez rješavanja ovih osnovnih pitanja dodatno će narušiti konkurenciju i odvratiti suštinska ulaganja od poboljšanja rezultata klijenata i davanja podrške lokalnim zajednicama“, rekao je Lorens.

Kada je CDR u bankarskom sektoru implementiran u julu 2020., bio je odložen šest mjeseci zbog zabrinutosti oko testiranja i sigurnosti njegovih novih odredbi za razmjenu podataka o računima.

Pristalice su tada govorile da je CDR napravio temeljnu konkurenciju i reformu potrošača.

Tri mjeseca kasnije, u novembru 2020., komitet australijskog senata počeo je da ispituje da li je regulatorni okvir mogao održati jednake uslove.

# Open Banking Rules Need ‘New Pathway Forward’

Australian Banking Association (ABA) CEO Anna Bligh said its “time to go back to the drawing board” when it comes to the country’s open banking rules.

Bligh said this in a Wednesday (July 3) press release announcing research that found that four years after the implementation of Australia’s open banking rules — the Consumer Data Right (CDR) regime — only 0.31% of bank customers were using this right to share their data between service providers.

The strategic review of the rollout of CDR, which was conducted by Accenture, also found that more than 50% of data sharing arrangements were discontinued or allowed to lapse in 2023, according to the release.

The CDR went live to customers of major banks in July 2020 and to those of other banks in July 2021, per the release.

“Despite the best efforts of government, regulators and industry, this review makes it clear that CDR has not realized its potential,” Bligh said in the release. “Australians have enthusiastically embraced digital innovations in banking such as mobile wallets and PayID, however uptake of the CDR has been comparatively low. It’s time to go back to the drawing board,” Bligh added. “The current CDR regime isn’t delivering for customers or enhancing competition and a new pathway forward is needed.”

The review found that the banking industry has invested around 1.5 billion Australian dollars (about \$1 billion) into CDR since 2018, that the government has also made “significant” investment in the program, and that other digital innovations in banking had “materially higher” customer uptake in the first three or four years after their launch.

It also found that CDR is negatively

impacting smaller banks and their ability to compete because they incur disproportionately higher compliance costs compared to major banks, and because these costs force them to make investment trade-offs that lead to other projects being given less priority.

Customer Owned Banking Association (COBA) CEO Michael Lawrence said in the release that customer-owned banks, their customers and the competition in the market had seen little benefit from the 100 million Australian dollars these banks invested in CDR.

“Before smaller banks commit more resources, we ask for a clear roadmap to ensure the CDR delivers on its original intent to improve competition,” Lawrence said. “Forging ahead without addressing these foundational issues will further erode competition and divert essential investment away from improving customer outcomes and supporting local communities.”

When the CDR in the banking sector was implemented in July 2020, it had been delayed by six months amid concerns over testing and security of its new provisions for account data sharing.

Supporters said at the time that the CDR made for fundamental competition and consumer reform.

Three months later, in November 2020, an Australian senate committee began looking into whether the regulatory framework could maintain a level playing field.

*„Four years after the implementation of Australia’s open banking rules — the Consumer Data Right (CDR) regime — only 0.31% of bank customers*



Paula Solen



# Dekodiranje digitalnog eura

Evropska centralna banka (ECB) radi na pripremljenoj fazi digitalnog eura kako bi ga što više približila gotovini u smislu privatnosti, sigurnosti i pristupačnosti – ali zainteresovane strane ostaju zabrinute zbog njegovog dizajna i neophodnosti.

*„Digitalni euro bi bio javni novac koji izdaje centralna banka (CBDC) - tako da za razliku od bankarskih depozita ili kriptovaluta, ne bi bilo finansijskih rizika vezanih za njega*

Posljednjih godina, a posebno nakon pandemije COVID-19, digitalna plaćanja i onlajn kupovina su porasli u eurozoni, dok je gotovina pala kao ukupan udio plaćanja sa 72% na 59% između 2019. i 2022. godine i broj novčanica u opticaju je prvi put pao prošle godine.

Prateći ovaj trend, ECB je u oktobru 2021. pokrenula fazu studije o mogućnosti izdavanja sopstvene digitalne valute centralne banke (CBDC), digitalnog eura, kako bi se obezbijedio dodatni oblik javnog novca u eurozoni.

Komisija EU je u junu 2023. predložila zakonski okvir koji bi mogao otvoriti put ECB-u da projekat digitalnog eura postane stvarnost – a sada je na zakonodacima da ga finaliziraju. [ead More](#)

Ali koja bi bila razlika između eura kakvog danas poznajemo i predložene digitalne verzije? Kako bi to moglo funkcionisati u praksi za

korisnike, banke i nebankarske provajdere? Da li bi to imalo negativan uticaj na finansijsku uključenost ili privatnost korisnika?

Euronews vam donosi vodič sa svim najnovijim dostignućima u oblasti digitalnog eura, komentarima stručnjaka i očekivanim vremenskim okvirom projekta.

## ŠTA JE DIGITALNI EURO?

Digitalni euro bi bio javni novac koji izdaje centralna banka (CBDC) - tako da za razliku od bankarskih depozita ili kriptovaluta, ne bi bilo finansijskih rizika vezanih za njega.

„Prilika koju vidimo je da je to univerzalno dostupan i siguran elektronski oblik novca, posebno za one na marginama ekonomije“, rekla je za Euronews Viki van Ejk, izvršna direktorka organizacije civilnog društva Positive Money.

ECB je zamislila digitalni euro za ljude i preduzeća koji bi se mogli



Paula Soler

# Decoding the digital euro

The European Central Bank (ECB) is working on the preparatory phase of the digital euro to make it as close to cash as possible in terms of privacy, safety, and accessibility — yet stakeholders remain concerned about its design and necessity.

In recent years, and especially after the COVID-19 pandemic, digital payments and online shopping have increased in the euro area, while cash has fallen as a total share of payments from 72% to 59% between 2019 and 2022 and the number of banknotes in circulation fell for the first time last year.

Following this trend, in October 2021 the ECB launched a study phase on the possibility of issuing its own central bank digital currency (CBDC), the digital euro, to provide an additional form of public money in the euro area.

In June 2023, the EU Commission proposed the legal framework that could pave the way for the ECB to make the digital euro project a reality - and now it's up to the legislators to finalise it.

But what would be the difference between the euro as we know it today and the proposed digital version?

How could it work in practice for users, banks and non-bank providers? Would it have a negative impact on financial inclusion or users' privacy?

Euronews brings you a guide with all the latest developments on the digital euro, comments from experts and the expected timeline of the project.

## WHAT IS THE DIGITAL EURO?

A digital euro would be public money issued by a central bank (CBDC) - so unlike bank deposits or cryptos, there would be no financial risks attached to it.

"The opportunity we see is that it's a universally accessible and safe electronic form of money, especially for those on the margins of the economy," Vicky van Eyck, executive director at the civil society organisation Positive Money, told Euronews.

*„A digital euro would be public money issued by a central bank (CBDC) - so unlike bank deposits or cryptos, there would be no financial risks attached to it*

The ECB has envisioned a digital euro for people and businesses that would be free to use anywhere in the eurozone (made up of 20 of the 27 member states).

It would be more of an electronic equivalent of cash than a popular crypto asset like bitcoin, and in no way should it be seen as the beginning of the end of cash payments.

"The digital euro should not be seen as a replacement, but rather as a complement to these existing forms of money [cash and banknotes], ensuring that it doesn't undermine the trust and stability they provide," MEP Markus Ferber (Germany/EPP) told Euronews.

The Frankfurt-based institution has already stressed that the digital euro will not be remunerated [meaning that deposits in digital euros will not earn interest] and will be subject to a holding limit yet to be determined.

## „ECB će nastaviti sa tehničkim radom za pripremnu fazu, koja će vjerovatno trajati do novembra 2025. godine

slobodno koristiti bilo gdje u eurozoni (koju čini 20 od 27 država članica).

To bi više bio elektronski ekvivalent gotovine nego popularna kripto imovina poput bitcoina, i ni na koji način ne bi smjela da se smatra početkom kraja gotovinskog plaćanja.

„Digitalni euro ne treba da se posmatra kao zamjenu, već kao dopunu ovim postojećim oblicima novca (gotovina i novčanica), osiguravajući da ne narušava povjerenje i stabilnost koje oni pružaju," rekao je za Euronews član evropskom parlamenta Markus Ferber (Njemačka/EPP).

Institucija sa sjedištem u Frankfurtu već je naglasila da digitalni euro neće biti naplaćen (što znači da depoziti u digitalnim eurima neće zarađivati kamatu) i da će podlijegati ograničenju držanja koji tek treba biti utvrđen.

Početna ideja je da ga ljudi koriste za plaćanje svega, od stanarine do namirnica, samo mobilnim telefonom ili fizičkom karticom, ali nije zamišljeno kao sredstvo štednje za velike iznose.

### KAKO BI TO MOGLO FUNKCIONISATI?

Na primjer, ako potrošač želi da kupi namirnice, prvi korak bi bio postavljanje digitalnog euro novčanika preko banke ili pošte. Novčanik bi tada trebao da bude dopunjen putem bankarskog računa ili gotovinskog depozita.

### KAKO EVROPA MOŽE PODRŽATI SVOJU INDUSTRIJU HRANE I PIĆA U PARTNERSTVU SA UNESDA-OM

Kada se učita, mogao bi da se koristi za instant plaćanja onlajn i u fizičkim trgovinama putem telefona ili fizičke kartice - a za one sa ograničenom (ili bez) vezom, postojala bi oflajn verzija digitalnog eura.

„Da bi se osigurala finansijska inkluzija, digitalni euro mora da bude dostupan svim građanima EU, uključujući i one u udaljenim područjima i one koji su u digitalnom nepovoljnom položaju“, rekao je Ferber, ističući važnost pružanja obrazovanja i resursa koji će pomoći ljudima da ga efikasno koriste.

Imajući to na umu, Komisija je u svoj nacrt zakona uključila odredbe kako bi osigurala da kreditne institucije koje distribuiraju digitalni euro takođe pružaju besplatnu podršku i pristup uslugama digitalnog eura, čak i za one bez bankarskog računa.

„Ljudi imaju pravo na pristup javnom novcu. Nema razloga zašto bismo morali da se oslanjamo samo

na privatne kompanije za pristup nečemu tako osnovnom kao što je plaćanje“, tvrdi van Ejk.

Izvršni direktor Positive Money napomenuo je da uvijek treba da postoji rezervna opcija za pristup digitalnim eurima putem javnih vlasti za one koji nemaju pristup bankarskom računu.

### ZAŠTO JE TO POTREBNO EVROPI?

Do danas ne postoji rješenje za digitalno plaćanje širom Evrope.

„Kada pogledate šta je zaista dostupno potrošačima kada prelazite granice, odlazite na odmor, studirate u inostranstvu, nema toliko opcija“, rekla je za Euronews Ana Martin, šefica finansijskih usluga u Evropskoj organizaciji potrošača (BEUC).

„Vaša nacionalna debitna kartica, ako postoji, ne radi i onda ste u osnovi svedeni na američke kompanije kao što su VISA ili Mastercard“, tvrdila je.

U eurozoni, 13 od 20 zemalja nema nacionalni kartični sistem i umjesto toga se oslanjaju na međunarodne pružaoce za digitalna plaćanja.

Jedinstvena opcija plaćanja bi stoga riješila postojeću fragmentaciju u eurozoni i donijela određenu autonomiju od međunarodnih aktera - budući da međunarodni kartični sistemi čine 64% svih elektronski pokrenutih transakcija s karticama eurozone, prema ECB-u.

The initial idea is for people to use it to pay for everything from rent to groceries with just a mobile phone or a physical card, but it is not intended as a savings vehicle for large amounts.

#### HOW COULD IT POSSIBLY WORK?

For example, if a consumer wants to buy groceries, the first step would be to set up a digital euro wallet through a bank or post office. The wallet would then need to be topped up via a bank account or cash deposit.

#### HOW EUROPE CAN SUPPORT ITS FOOD AND DRINK INDUSTRY

Once loaded, it could be used to make instant payments both online and in physical shops via a phone or a physical card - and for those with limited (or no) connectivity, there would be an offline version of the digital euro.

"To ensure financial inclusion, the digital euro must be accessible to all EU citizens, including those in remote areas and those who are digitally disadvantaged," Ferber said, noting the importance of providing education and resources to help people use it effectively.

With this in mind, the Commission has included provisions in its draft legislation to ensure that credit institutions distributing a digital euro should also provide free support and access to digital euro services, even for those without a bank account.

"People have a right to access public money. There is no reason why we should have to rely only on private companies for access to

something as basic as payments," argued van Eyck.

The Positive Money executive director noted that there should always be a backup option to access digital euros through public authorities for those with no access to a bank account.

#### WHY DOES EUROPE NEED IT?

To date, there is no Europe-wide digital payment solution.

"When you look at what is really available for consumers when you cross borders, go on holidays, study abroad, there are not so many options," Anna Martin, head of financial services at the European Consumer Organisation (BEUC) told Euronews.

"Your national debit card, if there is any, is not working and then you are basically reduced to US companies such as VISA or Mastercard," she argued.

In the euro area, 13 out of 20 countries don't have a national card scheme and rely instead on international providers for digital payments.

A single payment option would therefore address the existing fragmentation in the euro area, and bring some autonomy from international players - as international card schemes account for 64% of all electronically initiated transactions with euro area cards, according to the ECB.

"In terms of European sovereignty and being able to have a real European solution in terms of data protection, in terms of inclusion in your pocket, there is nothing,"

Martin said, adding that a digital euro is something consumer associations would like to see.

It would also reduce society's dependence on the banking sector, say supporters of the digital currency.

#### WHERE DO CONCERNS LIE?

The European Central Bank is not the only country considering issuing a CBDC. Norway is studying whether to introduce a CBDC and the UK is in the process of designing a digital pound.

Although the Bank of England has not yet decided whether to introduce the CBDC, it has stated that it may allow people to hold between €10,000 and £20,000 in their digital wallets.

In the EU, however, a €3,000 holding limit is already causing a stir among European banks, which fear that a high holding limit could have a negative impact on bank deposits.

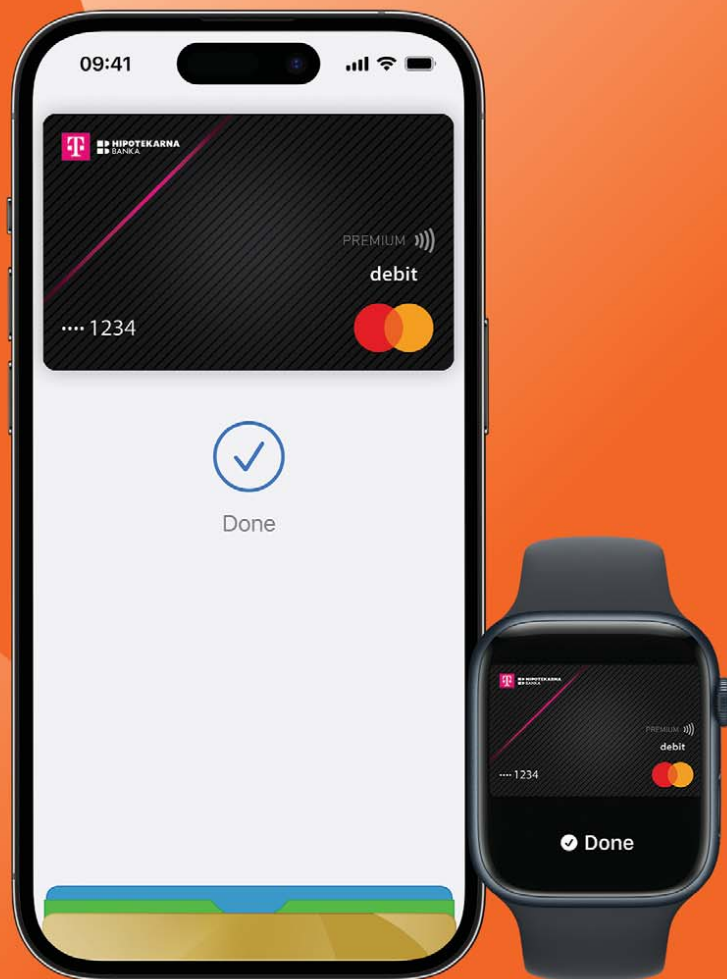
With a €3,000 threshold, the digital euro could lead to an outflow of up to €739bn in bank deposits in the euro area, the European Banking Federation said, citing a study by Copenhagen Economics.

But low limits would make it difficult to use the digital currency as a substitute for a bank account to pay rent or receive a salary, civil society organisations argue.

"We think a €3,000 threshold is quite low," van Eyck said, adding: "For us, holding limits need to be based on a methodology that takes into account equally the need to access public money and the need to safeguard financial stability."

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*„The ECB will continue its technical work for the preparatory phase, which is likely to last until November 2025*

Pending final legislation, European banks have called for a comprehensive impact assessment of the costs of infrastructure and implementation, as well as the potential effects of the digital euro on financial stability and current retail banking business models.

“We should [first] see whether what we already have in Europe is sufficient, and whether a digital euro could be based on the facilities and the market infrastructures that we already have in Europe,” Apostolos Thomadakis, researcher at the CEPS think tank, told Euronews.

#### **BUT ULTIMATELY, WHO WOULD BEAR THE COSTS?**

The Eurosystem - consisting of the ECB and the 20 national central banks of the euro area - has proposed a compensation model to cover the operational costs of issuing a digital euro, under which payment service providers would continue to be able to charge merchants for distribution services.

The Eurosystem would also bear the costs of setting up the digital euro system and infrastructure, as

it already does for the production of banknotes.

Another key concern is how to ensure as much privacy as possible for users, given that using cash does not allow you to track one person to another.

“What we would like to see for the online version is that for smaller amounts you can pay in full without tracking the transactions, but for larger amounts you would need some safeguards to prevent money laundering and fraud,” Martin stressed.

#### **WHEN COULD EU CITIZENS ACCESS A DIGITAL EURO?**

The current ECB president, Christine Lagarde, recently said in a group interview that the digital euro could possibly be available to citizens by the end of her mandate - although she admitted that it would need to be an accelerated process.

Lagarde started her non-renewable eight-year mandate in November 2019, so in the best case scenario, the digital euro would not be a reality until at least the end of 2027.

“We’re doing as much as we can on the technical work, but the legal

framework will be needed for us to move forward,” Lagarde noted, stressing that the ECB is not the only institution working on this project.

Member states and the European Parliament still need to agree on their positions on how the digital euro should be used - and then they would have to agree the final legislation with the EU Commission in the so-called trilogues.

In the meantime, the ECB will continue its technical work for the preparatory phase, which is likely to last until November 2025.

And only once the legal framework has been adopted will the governors of the national central banks and the six members of the ECB's executive board decide whether to issue a digital euro.

“Whether it comes in 2027 or in 2028, I think there is no urgency,” Martin said.

“The aim is not just to downsize the project to a minimum and then have a rise to the bottom deal, but to have a really ambitious project, because that’s a currency for the future”.

„Što se tiče evropskog suvereniteta i mogućnosti da imate pravo evropsko rješenje u smislu zaštite podataka, u smislu uključivanja u džep, nema ništa“, rekla je Martin i dodala da je digitalni euro nešto što bi udruženja potrošača željela da vide.

To bi takođe smanjilo zavisnost društva od bankarskog sektora, kažu pristalice digitalne valute.

### GDJE SU ZABRINUTOSTI?

Evropska centralna banka nije jedina koja razmatra izdavanje CBDC-a. Norveška proučava da li da uvede CBDC, a Velika Britanija je u procesu dizajniranja digitalne funte.

Iako Banka Engleske još nije odlučila da li će uvesti CBDC, navela je da može omogućiti ljudima da drže između 10.000 i 20.000 funti u svojim digitalnim novčanicima.

U EU, međutim, ograničenje držanja od 3.000 eura već izaziva pometnju među evropskim bankama, koje strahuju da bi visoki limit držanja mogao da ima negativan uticaj na bankarske depozite.

Uz prag od 3.000 eura, digitalni euro bi mogao da dovede do odliva do 739 milijardi eura bankarskih depozita u eurozoni, saopštila je Evropska bankarska federacija, pozivajući se na studiju Copenhagen Economics.

Ali niski limiti otežali bi korišćenje digitalne valute kao zamjene za bankarski račun za plaćanje stanarine ili primanje plate, tvrde organizacije civilnog društva.

„Smatramo da je limit od 3.000 eura prilično nizak. Za nas limiti držanja moraju da budu zasnovani na metodologiji koja podjednako uzima u obzir potrebu za pristupom

javnom novcu i potrebu za očuvanjem finansijske stabilnosti“, rekao je Van Ejk.

U očekivanju konačnog zakonodavstva, evropske banke su pozvale na sveobuhvatnu procjenu uticaja troškova infrastrukture i implementacije, kao i potencijalnih efekata digitalnog eura na finansijsku stabilnost i trenutne poslovne modele bankarstva sa stanovništvom.

„Trebalo bi prvo da vidimo da li je ono što već imamo u Evropi dovoljno i da li bi digitalni euro mogao da se zasniva na objektima i tržišnoj infrastrukturi koje već imamo u Evropi“, rekao je za Euronews Apostolos Tomadakis, istraživač u CEPS-ovom ekspertskom timu.

### ALI NA KRAJU, KO BI SNOSIO TROŠKOVE?

Eurosistem - koji se sastoji od ECB-a i 20 nacionalnih centralnih banaka eurozone - predložio je model kompenzacije za pokrivanje operativnih troškova izdavanja digitalnog eura, prema kojem bi pružaoci platnih usluga i dalje mogli da naplaćuju trgovcima usluge distribucije.

Eurosistem bi snosio i troškove uspostavljanja digitalnog eurosistema i infrastrukture, kao što već radi za proizvodnju novčanica.

Još jedna ključna briga je kako osigurati što je moguće više privatnosti za korisnike, s obzirom da korišćenje gotovine ne omogućava praćenje jedne osobe do druge.

„Ono što bismo željeli da vidimo za onlajn verziju je da kada su u pitanju manji iznosi, njih možete da platite u cijelosti bez praćenja transakcija, dok će vam za veće iznose trebati neke zaštitne mjere

kako biste spriječili pranje novca i prevaru“, naglasila je Martin.

### KADA BI GRAĐANI EU MOGLI DA PRISTUPE DIGITALNOM EURU?

Sadašnja predsjednica ECB-a, Kristin Lagard, nedavno je u grupnom intervjuu rekla da bi digitalni euro mogao da bude dostupan građanima do kraja njenog mandata - iako je priznala da bi to trebao da bude ubrzan proces.

Lagardova je svoj neobnovljivi osmogodišnji mandat započela u novembru 2019., tako da u najboljem slučaju digitalni euro ne bi bio realnost barem do kraja 2027. godine.

„Radimo onoliko koliko možemo na tehničkom poslu, ali će nam biti potreban pravni okvir da idemo naprijed“, napomenula je Lagard, ističući da ECB nije jedina institucija koja radi na ovom projektu.

Države članice i Evropski parlament tek treba da se usaglase o svojim stavovima o tome kako treba koristiti digitalni euro - a onda bi morali da usaglase konačan zakon sa Komisijom EU u takozvanim trijalozima.

U međuvremenu, ECB će nastaviti sa tehničkim radom za pripremnu fazu, koja će vjerovatno trajati do novembra 2025. godine.

I tek kada zakonski okvir bude usvojen, guverneri nacionalnih centralnih banaka i šest članova izvršnog odbora ECB-a odlučiće da li će izdati digitalni evro.

„Bilo da dođe 2027. ili 2028. godine, mislim da nema hitnosti. Cilj nije samo da se projekat svede na minimum, a zatim dođe do najnižeg nivoa, već da imamo zaista ambiciozan projekat, jer je to valuta za budućnost“, rekala je Martin.



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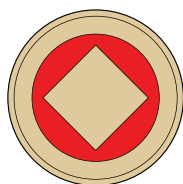
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